11-1510-201-20

TM 11-1510-201-20

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL

ELECTRONIC EQUIPMENT CONFIGURATION, ARMY MODELS U-8D, U-8F, AND U-8G AIRCRAFT

This copy is a reprint which includes current pages from Change 1.

UNITED STATES OF AMERICA
WAR OFFICE

HEADQUARTERS, DEPARTMENT OF THE ARMY

JANUARY 1969

D101.11:

WARNING

DANGEROUS VOLTAGES EXIST IN THIS CONFIGURATION

Be careful when working on the equipment. Dangerous high voltages are present in several units of this configuration. The points of high voltages are covered with perforated metal shields or are so labeled to identify them as extreme danger points. Be careful when working on the 115-volt power connections, or any other power connections. Serious injury or DEATH may result from contact with these terminals.

FLAMMABLE MATERIAL

Make sure that Radar Set AN/APN–158, TACAN Navigational Set AN/ARN–52(V), or any of the radio sets are not operated when the aircraft is being refueled. Transmissions could ignite the aircraft fuel.

RADIO-FREQUENCY

BURNS

Do not stand in front of radiating radar antennas; do not touch transmitting antennas while the radio sets are transmitting.

TECHNICAL MANUAL
No. 11-1510-201-20

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. *3 January 1969*

Organizational Maintenance Manual
ELECTRONIC EQUIPMENT CONFIGURATION, ARMY MODELS U-8D, U-8F, U-8G AIRCRAFT

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual covers organizational maintenance of the basic electronics equipment configuration as well as the authorized standard Avionics Configuration (ASAC) in Army model U-8D aircraft.

(1) Model U-8D (ASAC) aircraft include the following serial numbers: 56-3696, 56-3698, 56-3701, 56-3705, 56-3708, 56-3709, 56-3716 through 56-3718, 57-3084 through 57-3087, 57-6034, 57-6036, 57-6038, 57-6040 through 57-6043, 57-6061, 57-6065, 57-6066, 57-6068, 57-6084, 57-6086, 57-6092 through 57-6094, 58-1333, 58-1335, 58-1343, 58-1344, 58-1346, 58-1347, 58-1350 through 58-1352, 58-3063 through 58-3066, 58-3070, 58-3073, 58-3076, 58-3084, 58-3085 and 58-3088.

(2) Standard (STD) U-8D aircraft include the following serial numbers: 56-3695, 56-3703, 56-3714, 56-3715, 57-3099, 57-3100, 57-6033, 57-6035, 57-6037, 57-6045, 57-6047, 57-6048, 57-6054, 57-6055, 57-6058, 57-6060, 57-6062, 57-6064, 57-6067, 57-6070 through 57-6074, 57-6077, 57-6079 through 57-6081, 57-6083, 57-6087, 58-1330, 58-1334, 58-1338, 58-1349, 58-1361, 58-3048, 58-3049, 58-3054, 58-3058, 58-3071, 58-3080, 58-3081, 58-3083, 58-3087, 58-3091, and 58-3092.

(3) Model U-8F (ASAC) aircraft include the following serial numbers: 60-3453, 60-3458, 60-3461, 60-5387, 61-2428, 61-2429, 62-3834, 62-3841, 62-3843, 62-3844, 62-3856, 62-3857, 62-3870, 62-3872, and 62-3873.

(4) Standard (STD) U-8F aircraft include the following serial numbers: 58-1354 through 58-1356, 60-3454 through 60-3457, 60-3459, 60-3460, 60-3462, 60-3463, 60-5386, 60-5388 through 60-5390, 61-2426, 61-2427, 61-2430, 62-3832, 62-3833, 62-3835 through 62-3840, 62-3847, 62-3849 through 62-3855, 62-3858 through 62-3866, 62-3868, 62-3869, 62-3871, 62-3874, 63-13636, 63-13637.

(5) Model U-8G aircraft, include the following serial numbers: 53-3465, 56-3710, 56-4039, 56-4041, 56-4043, 56-4044, 57-3092, 57-6085, 57-6089, 58-1329, 58-1336, 58-1339, 58-1348, 58-1357, 58-1359, 58-1360, 58-1363, 58-1364, 58-3055, 58-3057, 58-3062, 59-2536 through 59-2538 and 59-4990.

This manual includes instructions for organizational maintenance repairmen to perform periodic preventive maintenance and troubleshooting procedures for the electronic, communications, and navigational equipment when the equipment is installed in the aircraft. This manual also lists the tools and test equipment required by organizational maintenance repairmen to maintain the configuration.

b. Operating instructions are contained in TM 55-1510-201-10. This manual supplements TM 55-1510-201-10 and TM 55-1510-201-20 to provide complete organizational maintenance instructions. Some of the electronic equipments used in this configuration are covered in detail in other technical manuals which are listed in appendix A. When servicing components of the electronic systems independent of the aircraft, refer to the applicable technical manuals for detailed troubleshooting procedures and for replacing and repairing maintenance parts.

c. Appendix B is current as of *21 June 1971.*

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions given in TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700–58 (Army), NAVSUP Publication 378 (Navy), AFR 71–4 (Air Force), and MCO P4610–5 (Marine Corps).

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55–38 (Army), NAVSUP Publication 459 (Navy), AFM 75–34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Reporting of Equipment Publication Improvements. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, US Army Electronics Command, ATTN: AMSEL–ME–NMP–EM, Fort Monmouth, N.J. 07703.

Section II. DESCRIPTION OF CONFIGURATION AND ELECTRONIC EQUIPMENT

1–4. Configuration and Serial Numbers

There are three basic configurations of the aircraft. The serial numbers of all aircraft within a particular configuration are listed below:

Configuration	*Aircraft Serial No.*
A (ASAC U–8D aircraft)	56–3696, 56–3698, 56–3701, 56–3705, 56–3708, 56–3709, 56–3716 through 56–3718, 57–3084 through 57–3087, 57–6034, 57–6036, 57–6038, 57–6040 through 57–6043, 57–6061, 57–6065, 57–6066, 57–6068, 57–6084, 57–6086, 57–6092 through 57–6094, 58–1333, 58–1335, 58–1343, 58–1344, 58–1346, 58–1347, 58–1350 through 58–1352, 58–3063 through 58–3066, 58–3070, 58–3073, 58–3076, 58–3084, 58–3085, and 58–3088.
A (STD U–8D aircraft)	56–3695, 56–3703, 56–3714, 56–3715, 57–3099, 57–3100, 57–6033, 57–6035, 57–6037, 57–6045, 57–6047, 57–6048, 57–6054, 57–6055, 57–6058, 57–6060, 57–6062, 57–6064, 57–6070 through 57–6074, 57–6077, 57–6079 through 57–6081, 57–6083, 57–6087, 58–1330, 58–1334, 58–1338, 58–1349, 58–1361, 58–3048, 58–3049, 58–3054, 58–3058, 58–3071, 58–3080, 58–3081, 58–3083, 58–3087, 58–3091, 58–3092.
B (ASAC U–8F aircraft)	60–3453, 60–3458, 60–3461, 60–5387, 61–2428, 61–2429, 62–3834, 62–3841, 62–3843, 62–3844, 62–3856, 62–3857, 62–3870, 62–3872, and 62–3873.
B (STD U–8F aircraft)	58–1354 through 58–1356, 60–3454 through 60–3457, 60–3459, 60–3460, 60–3462, 60–3463, 60–5386, 60–5388 through 60–5390, 61–2426, 61–2427, 61–2430, 62–3832, 62–3833, 62–3835 through 62–3840, 62–3847, 62–3849 through 62–3855, 62–3858 through 62–3866, 62–3868, 62–3869, 62–3871, 62–3874, 63–13636, 63–13637.
C (U–8G aircraft)	53–3465, 56–3710, 56–4039, 56–4041, 56–4043, 56–4044, 57–3092, 57–6085, 57–6089, 58–1329, 58–1336, 58–1339, 58–1348, 58–1357, 58–1359, 58–1360, 58–1363, 58–1364, 58–3055, 58–3057, 58–3062, 59–2536 through 59–2538 and 59–4990.

1–5. Facilities and Electronic Equipment

The charts given in *a* and *b* below list each operational facility provided in the different configurations of the aircraft (para 1–4). The charts list all electronic equipment components used for each facility. A letter "X" in the *Configuration* column indicates that the particular component was installed in the aircraft. A letter "Y" in the *Configuration* column indicates that complete provisions for the component are provided; however, the component is not installed. The provisions provide easy installation of the component when it is required for a special geographical location or mission application.

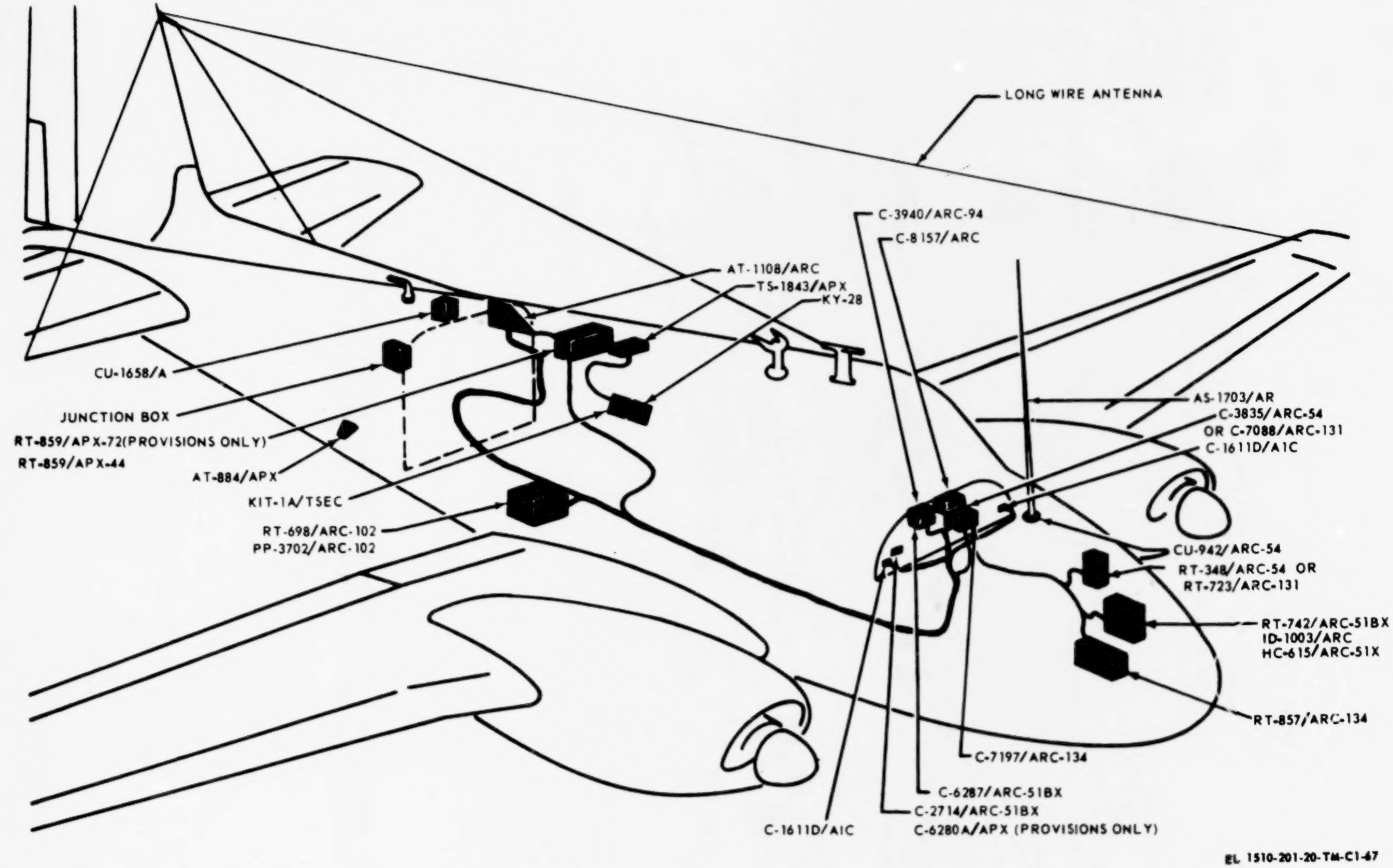

LONG WIRE ANTENNA
C-3940/ARC-94
C-8157/ARC
AT-1108/ARC
TS-1843/APX
KY-28
CU-1658/A
JUNCTION BOX
RT-859/APX-72(PROVISIONS ONLY)
RT-859/APX-44
AT-884/APX
KIT-1A/TSEC
RT-698/ARC-102
PP-3702/ARC-102
AS-1703/AR
C-3835/ARC-54
OR C-7088/ARC-131
C-1611D/AIC
CU-942/ARC-54
RT-348/ARC-54 OR
RT-723/ARC-131
RT-742/ARC-51BX
ID-1003/ARC
HC-615/ARC-51X
RT-857/ARC-134
C-7197/ARC-134
C-6287/ARC-51BX
C-2714/ARC-51BX
C-6280A/APX (PROVISIONS ONLY)
C-1611D/AIC
EL 1510-201-20-TM-C1-67

Figure 1-1. Outline drawing of aircraft showing relative location of communications equipment components and cable routing (ASAC configuration A).

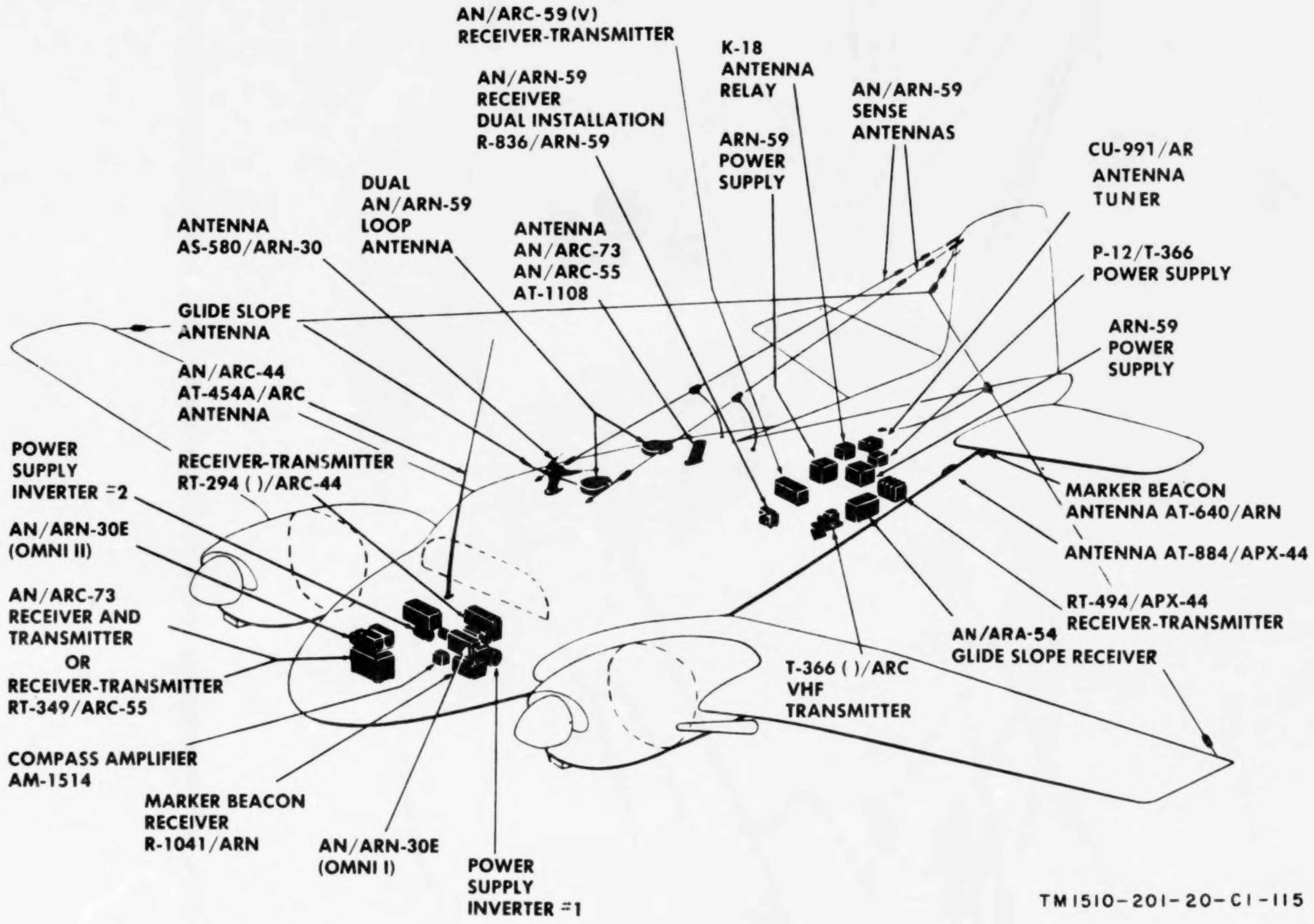
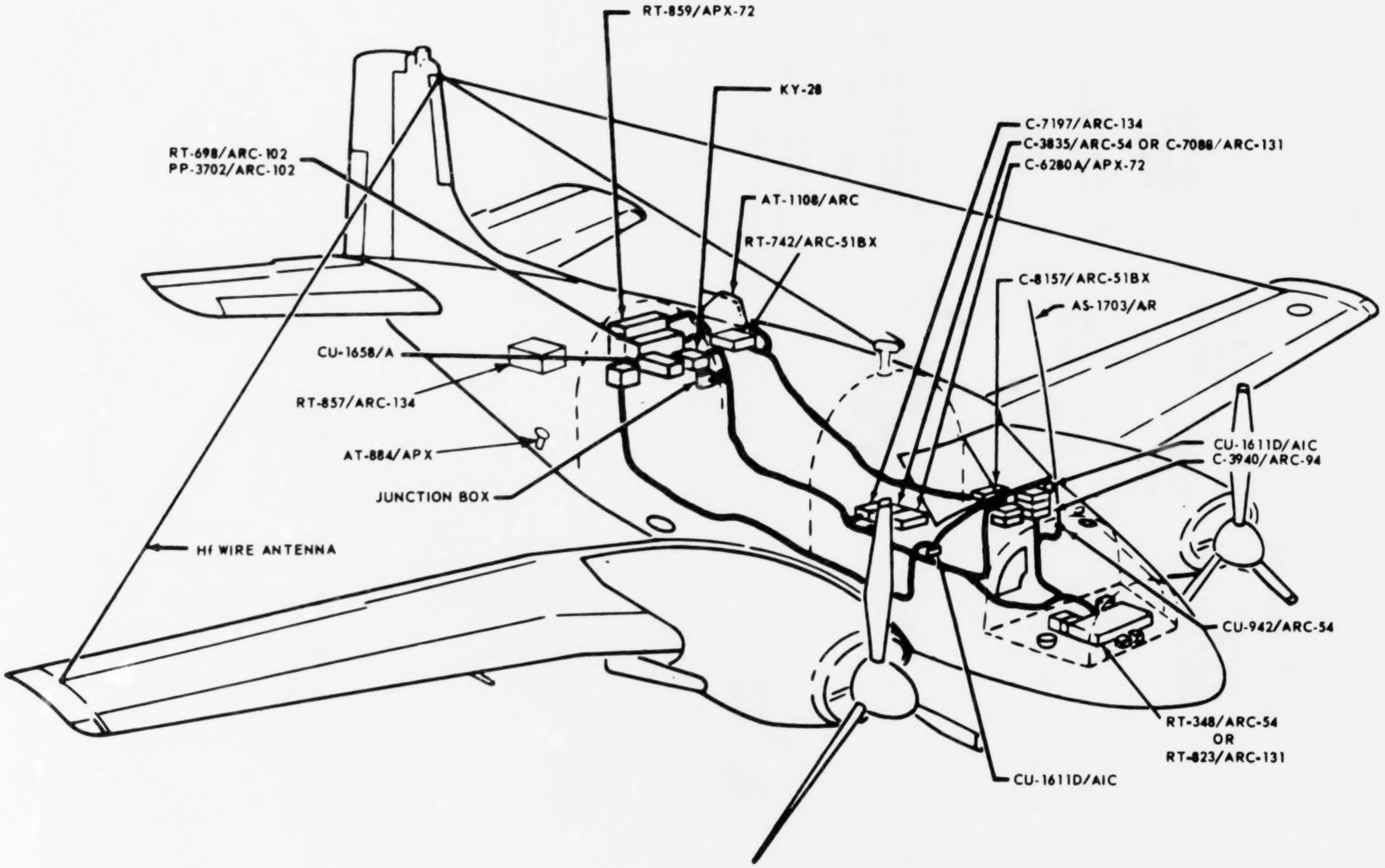

AN/ARC-59(V)
RECEIVER-TRANSMITTER
AN/ARN-59
RECEIVER
DUAL INSTALLATION
R-836/ARN-59
K-18
ANTENNA
RELAY
ARN-59
POWER
SUPPLY
AN/ARN-59
SENSE
ANTENNAS
CU-991/AR
ANTENNA
TUNER
P-12/T-366
POWER SUPPLY
ARN-59
POWER
SUPPLY
DUAL
AN/ARN-59
LOOP
ANTENNA
ANTENNA
AS-580/ARN-30
ANTENNA
AN/ARC-73
AN/ARC-55
AT-1108
GLIDE SLOPE
ANTENNA
AN/ARC-44
AT-454A/ARC
ANTENNA
RECEIVER-TRANSMITTER
RT-294 ( )/ARC-44
POWER
SUPPLY
INVERTER #2
AN/ARN-30E
(OMNI II)
AN/ARC-73
RECEIVER AND
TRANSMITTER
OR
RECEIVER-TRANSMITTER
RT-349/ARC-55
COMPASS AMPLIFIER
AM-1514
MARKER BEACON
RECEIVER
R-1041/ARN
AN/ARN-30E
(OMNI I)
POWER
SUPPLY
INVERTER #1
MARKER BEACON
ANTENNA AT-640/ARN
ANTENNA AT-884/APX-44
RT-494/APX-44
RECEIVER-TRANSMITTER
AN/ARA-54
GLIDE SLOPE RECEIVER
T-366 ( )/ARC
VHF
TRANSMITTER
TM1510-201-20-C1-115

Figure 1–1.1 Outline drawing of aircraft showing relative location of communications equipment components and cable routing (STD configuration A).


RT-859/APX-72
KY-28
C-7197/ARC-134
C-3835/ARC-54 OR C-7088/ARC-131
C-6280A/APX-72
RT-698/ARC-102
PP-3702/ARC-102
AT-1108/ARC
RT-742/ARC-51BX
C-8157/ARC-51BX
AS-1703/AR
CU-1658/A
RT-857/ARC-134
AT-884/APX
JUNCTION BOX
CU-1611D/AIC
C-3940/ARC-94
Hf WIRE ANTENNA
CU-942/ARC-54
RT-348/ARC-54
OR
RT-823/ARC-131
CU-1611D/AIC

EL 1510-201-20-TM-C1-48

Figure 1–2. Outline drawing of aircraft showing relative location of communications equipment components and cable routing (ASAC configuration B).

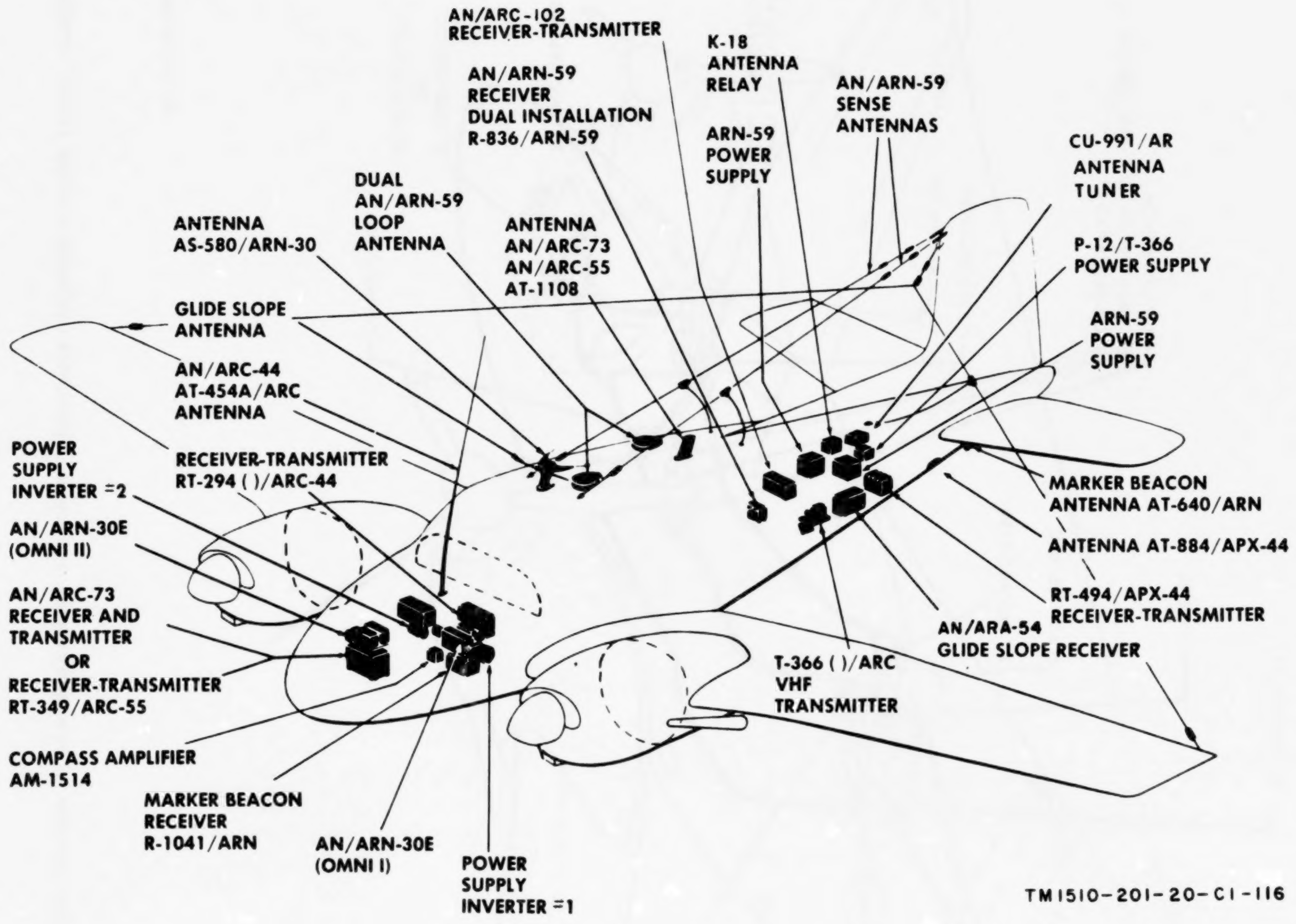

AN/ARC-102
RECEIVER-TRANSMITTER
AN/ARN-59
RECEIVER
DUAL INSTALLATION
R-836/ARN-59
K-18
ANTENNA
RELAY
ARN-59
POWER
SUPPLY
AN/ARN-59
SENSE
ANTENNAS
CU-991/AR
ANTENNA
TUNER
DUAL
AN/ARN-59
LOOP
ANTENNA
ANTENNA
AS-580/ARN-30
ANTENNA
AN/ARC-73
AN/ARC-55
AT-1108
P-12/T-366
POWER SUPPLY
ARN-59
POWER
SUPPLY
GLIDE SLOPE
ANTENNA
AN/ARC-44
AT-454A/ARC
ANTENNA
POWER
SUPPLY
INVERTER =2
RECEIVER-TRANSMITTER
RT-294 ( )/ARC-44
MARKER BEACON
ANTENNA AT-640/ARN
ANTENNA AT-884/APX-44
AN/ARN-30E
(OMNI II)
AN/ARC-73
RECEIVER AND
TRANSMITTER
OR
RECEIVER-TRANSMITTER
RT-349/ARC-55
RT-494/APX-44
RECEIVER-TRANSMITTER
AN/ARA-54
GLIDE SLOPE RECEIVER
T-366 ( )/ARC
VHF
TRANSMITTER
COMPASS AMPLIFIER
AM-1514
MARKER BEACON
RECEIVER
R-1041/ARN
AN/ARN-30E
(OMNI I)
POWER
SUPPLY
INVERTER =1
TM1510-201-20-C1-116

Figure 1–2.1 Outline drawing of aircraft showing relative location of communications equipment components and cable routing (STD configuration B).

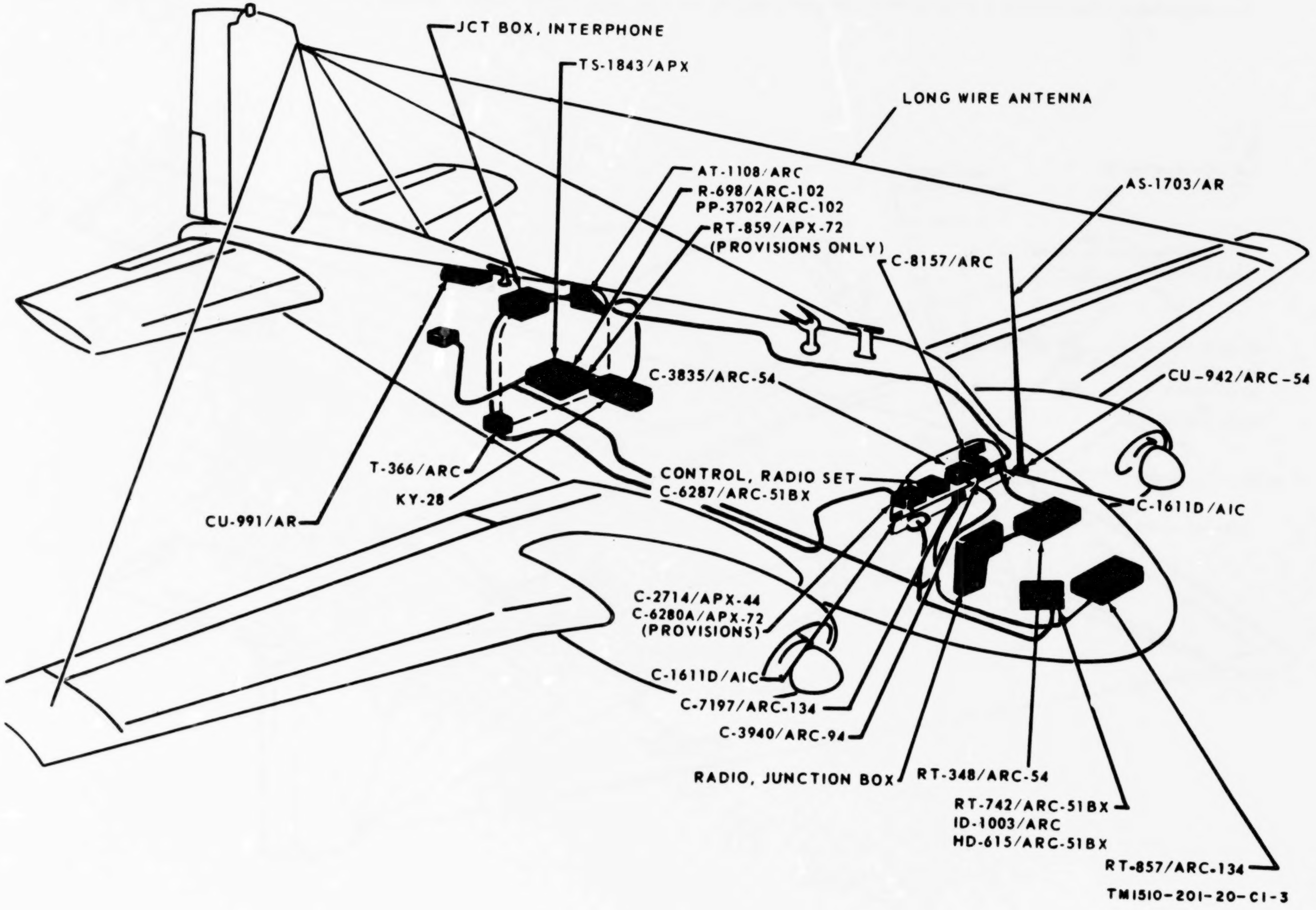

JCT BOX, INTERPHONE
TS-1843/APX
LONG WIRE ANTENNA
AT-1108/ARC
R-698/ARC-102
PP-3702/ARC-102
RT-859/APX-72
(PROVISIONS ONLY)
AS-1703/AR
C-8157/ARC
C-3835/ARC-54
CU-942/ARC-54
T-366/ARC
KY-28
CU-991/AR
CONTROL, RADIO SET
C-6287/ARC-51BX
C-1611D/AIC
C-2714/APX-44
C-6280A/APX-72
(PROVISIONS)
C-1611D/AIC
C-7197/ARC-134
C-3940/ARC-94
RADIO, JUNCTION BOX
RT-348/ARC-54
RT-742/ARC-51BX
ID-1003/ARC
HD-615/ARC-51BX
RT-857/ARC-134
TM1510-201-20-C1-3

Figure 1–3. Outline drawing of aircraft showing relative location of communications equipment components and cable routing (configuration C).

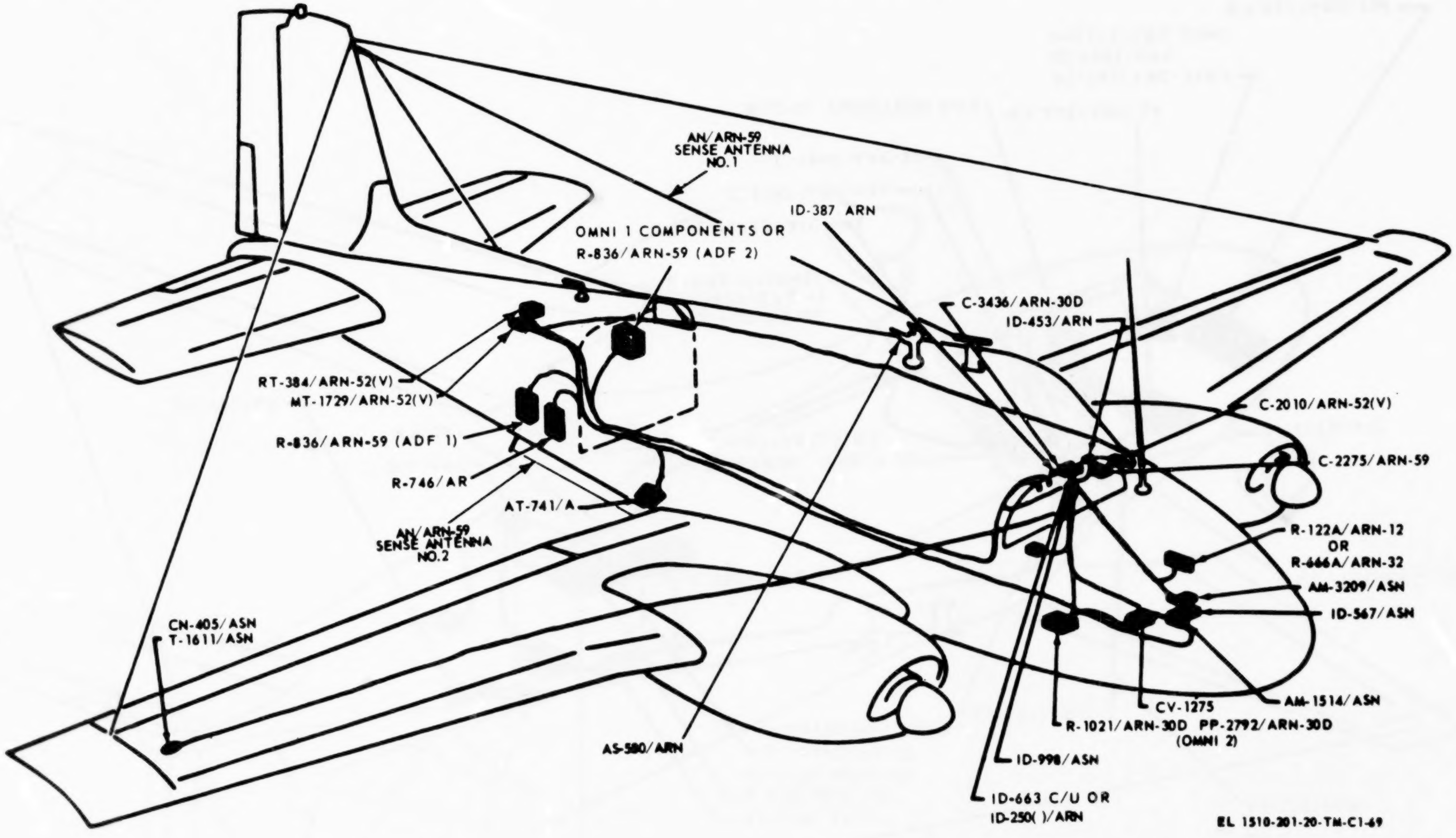

AN/ARN-59
SENSE ANTENNA
NO. 1
ID-387 ARN
OMNI 1 COMPONENTS OR
R-836/ARN-59 (ADF 2)
C-3436/ARN-30D
ID-453/ARN
RT-384/ARN-52(V)
MT-1729/ARN-52(V)
C-2010/ARN-52(V)
R-836/ARN-59 (ADF 1)
C-2275/ARN-59
R-746/AR
AT-741/A
AN/ARN-59
SENSE ANTENNA
NO. 2
R-122A/ARN-12
OR
R-666A/ARN-32
AM-3209/ASN
ID-567/ASN
CN-405/ASN
T-1611/ASN
CV-1275
AM-1514/ASN
R-1021/ARN-30D PP-2792/ARN-30D
(OMNI 2)
AS-580/ARN
ID-998/ASN
ID-663 C/U OR
ID-250( )/ARN
EL 1510-201-20-TM-C1-69

Figure 1–4. Outline drawing of aircraft showing relative location of navigation equipment components and cable routing (configuration A).

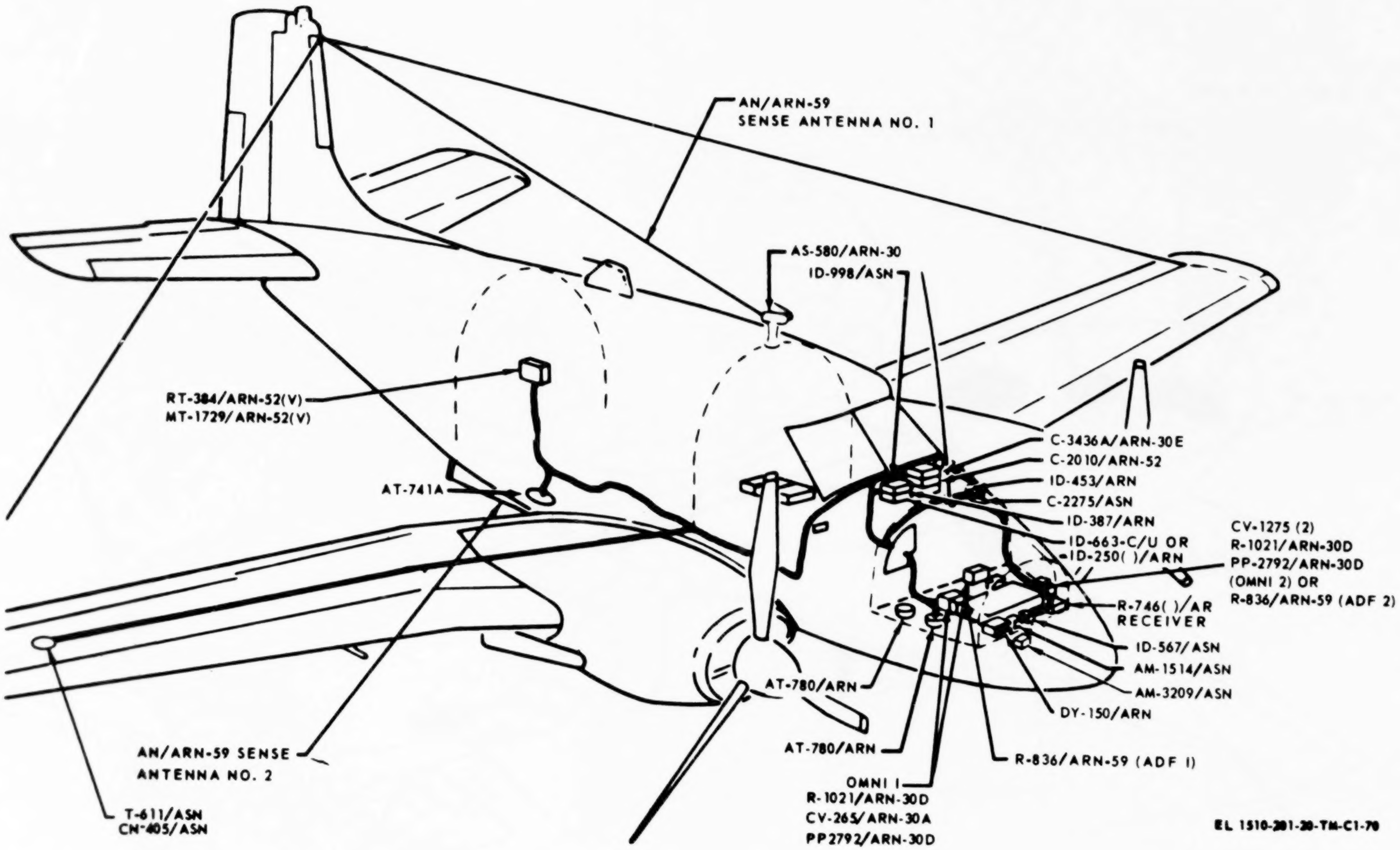
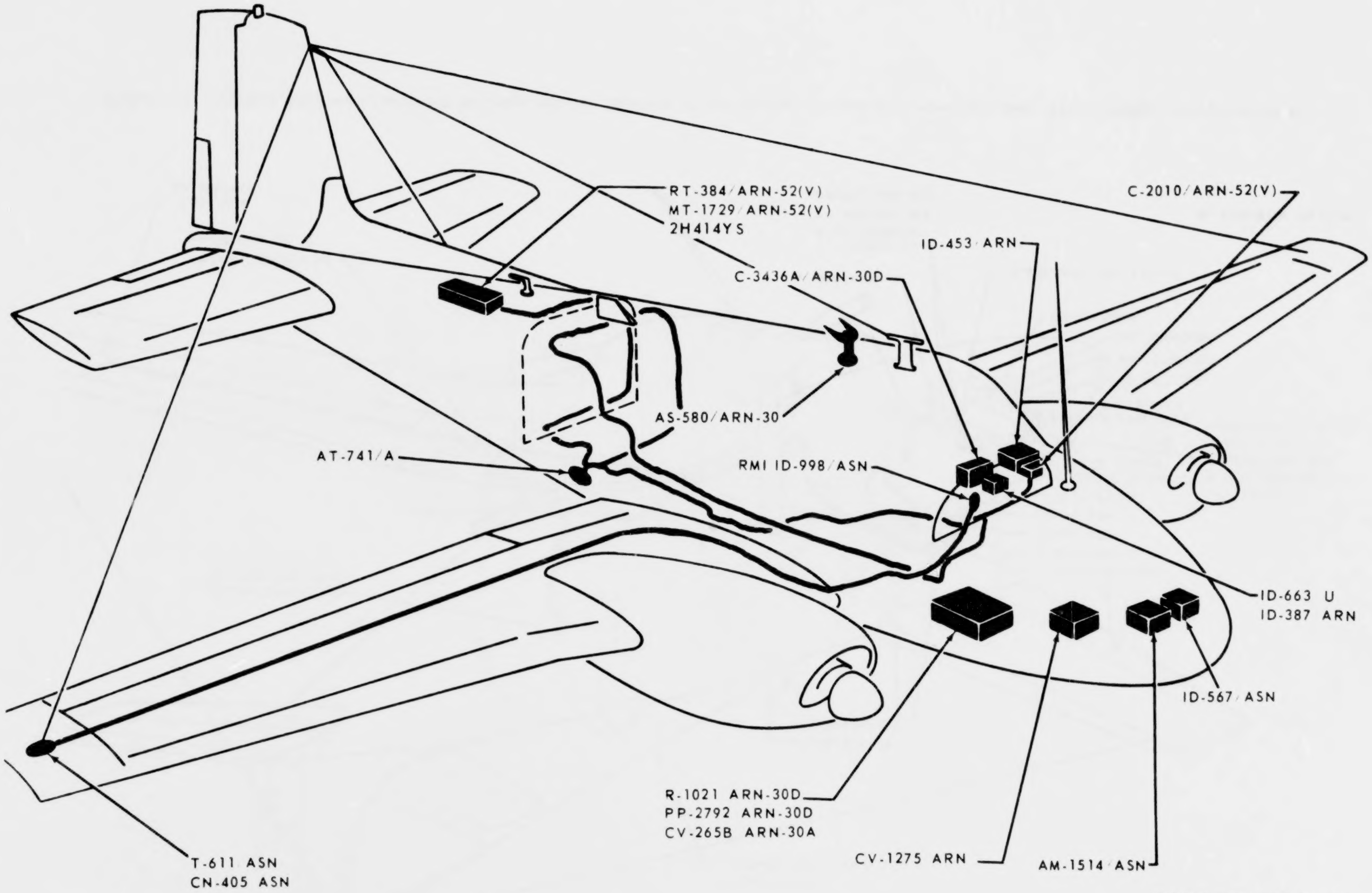

AN/ARN-59
SENSE ANTENNA NO. 1
AS-580/ARN-30
ID-998/ASN
RT-384/ARN-52(V)
MT-1729/ARN-52(V)
AT-741A
C-3436A/ARN-30E
C-2010/ARN-52
ID-453/ARN
C-2275/ASN
ID-387/ARN
ID-663-C/U OR
ID-250( )/ARN
CV-1275 (2)
R-1021/ARN-30D
PP-2792/ARN-30D
(OMNI 2) OR
R-836/ARN-59 (ADF 2)
R-746( )/AR
RECEIVER
ID-567/ASN
AM-1514/ASN
AM-3209/ASN
DY-150/ARN
AT-780/ARN
AT-780/ARN
R-836/ARN-59 (ADF 1)
OMNI 1
R-1021/ARN-30D
CV-265/ARN-30A
PP2792/ARN-30D
AN/ARN-59 SENSE
ANTENNA NO. 2
T-611/ASN
CN-405/ASN
EL 1510-201-20-TM-C1-70

Figure 1–5. Outline drawing of aircraft showing relative location of navigation equipment components and cable routing (configuration B).


RT-384/ARN-52(V)
MT-1729/ARN-52(V)
2H414YS
C-2010/ARN-52(V)
ID-453/ARN
C-3436A/ARN-30D
AS-580/ARN-30
AT-741/A
RMI ID-998/ASN
ID-663 U
ID-387 ARN
ID-567/ASN
R-1021 ARN-30D
PP-2792 ARN-30D
CV-265B ARN-30A
CV-1275 ARN
AM-1514/ASN
T-611 ASN
CN-405 ASN

TM1510–201–20–C1–6

Figure 1–6. Outline drawing of aircraft showing relative location of navigation equipment components and cable routing (configuration C).

a. Communications (figs. 1-1, 1-1.1, 1-2, 1-2.1 and 1-3). Equipment comprising the communications installation for aircraft configurations A, B, and C is listed in the following table:

Facility	Equipment or component	Configuration					Remarks
		A		B		C	
		ASAC	STD	ASAC	STD		
Interphone	Control, Intercommunication Set C-1611D/AIC (two installed).	X	----	X	----	X	
	Box, Junction 4452-1-4222	X	----	X	----	X	
	Signal Distribution Panel SB-329.	----	X	----	X		
HF Communication	Radio Set AN/ARC-102:						
	Control, Radio Set C-3940/ARC-94.	X	----	X	X	X	
	Receiver-Transmitter RT-698/ARC-102.	X	----	X	X	X	
	Power Inverter-Mounting PP-3702/ARC-102.	X	----	X	X	X	
	Network, Impedance Matching CU-991/AR.	----	----	X	X	X	
	Coupler, Antenna CU-1658/A.	X	----	X			
	Wire Antenna	X	----	X	X	X	
HF Command Set	Radio Set AN/ARC-59(V):						
	Radio Receiver-Transmitter RT-380(V)/AR.	----	X				
	Control, Radio Set C-1982/AR.	----	X				
	Mounting MT-1718/AR		X				
FM Communication	Radio Set AN/ARC-54:						
	Control, Radio Set C-3835/ARC-54.	X	----	X	----	X	
	Receiver-Transmitter Radio RT-348/ARC-54.	X	----	X	----	X	
	Coupler, Antenna CU-942/ARC-54.	X	----	X	----	X	
	Antenna AS-1703/AR	X	----	X	----	X	
	Radio Set AN/ARC-131:						Radio Set AN/ARC-131 is completely interchangeable with Radio Set AN/ARC-54.
	Control, Radio Set C-7088/ARC-131.	X	----	X			
	Receiver-Transmitter RT-823/ARC-131.	X	----	X			
	Radio Set AN/ARC-44:						
	Receiver-Transmitter Radio RT-294/ARC-44.	----	X	----	X		
	Antenna AT-454/ARC-44	----	X	----	X		
	Panel Control SB-327/ARC-44.	----	X	----	X		
	Panel, Signal Distribution, Radio SB-329/AR.	----	X	----	X		
	Dynamotor DY-107/AR	----	X	----	X		

Facility	Equipment or component	Configuration					Remarks
		A		B		C	
		ASAC	STD	ASAC	STD		
Vhf Command Set	Radio Set AN/ARC–134:						
	Control, Radio Set C–7197/ARC–134.	X	----	X	----	X	
	Receiver-Transmitter RT-857/ARC–134.	X	----	X	----	X	
	Radio Set AN/ARC–73:						
	Transmitter, Radio 17L–7A	----	X	----	X		
	Panel, Transmitter Control 614U–6.	----	X	----	X		
	Receiver, Radio 51X–2B	----	X	----	X		
	Panel, Receiver Control 614U–6.	----	X	----	X		
	Antenna AT–805/ARN or Antenna 37R–2 or AT–1108.	----	X	----	X		
Uhf command	Radio Set AN/ARC–51BX:						
	Control, Radio Set C–6287/ARC–51BX.	X	----	X	----	X	
	Receiver-Transmitter Radio RT–742/ARC–51BX.	X	----	X	----	X	
	Indicator, Standing Wave Ratio ID–1003/ARC.	X	----	X	----	X	
	Cooler, Air, Electronic Equipment HD–615/ARC–51X.	X	----	X	----	X	
	Antenna AT–1108/ARC	X	----	X	----	X	
	Radio Set AN/ARC–55:						
	Receiver, Transmitter, Radio RT–349/ARC–55.	----	X	----	X		
	Panel, Control C–1827/ARC–55.	----	X	----	X		
	Antenna AT–450/ARC–55 or AT–1108.	----	X	----	X		
IFF transponder (provisions only).	Transponder Set AN/APX–72:	Y	----	Y	----	Y	Transponder Set AN/APX–44 must be removed before AN/APX–72 is installed.
	Control, Transponder Set C–6280A(P)/APX.						
	Receiver-Transmitter Radar RT–859/APX–72.	Y	----	Y	----	Y	
	Kit—1A TSEC	Y	----	Y	----	Y	
	Test Set Transponder Set TS–1843/APX.	Y	----	Y	----	Y	
	Transponder Set AN/APX–44:						
	Control, Transponder Set C–2714A/APX–44.	X	X	X	X	X	
	Receiver-Transmitter Radar RT–494/APX–44.	X	----	X	----	X	
	Antenna AT–884/APX–44	X	----	X	----	X	
	Mounting MT–2100/APX–44.	X	----	X	----	X	
Secure Voice	Computer, Voice Security TSEC/KY–28.	X	----	X	----	X	
	Control Indicator, C–8157/ARC.	X	----	X	----	X	
Emergency VHF Communication.	Radio Transmitter T–366A/ARC.	----	X	----	X		

b. Navigation (figs. 1-4, 1-5, and 1-6). Equipment comprising the navigation equipment installation for aircraft configurations A, B, and C is listed in the following table. In addition to Gyro Magnetic Compass Set AN/ASN-13, three combinations of navigation equipment are installed in configuration A and B aircraft. Provisions are installed for five separate navigation equipments; however, hardware is installed for only three. The equipment installed is integrated into the system by means of a navigation system select switch. Equipment combinations are as follows:

(1) One Radio Receiving Set AN/ARN-30E (OMNI No. 2—configuration A, OMNI No. 1—configuration B); one Direction Finder Set AN/ARN-59 (ADF No. 1); and one TACAN Navigation Set AN/ARN-52; or

(2) One Radio Receiving Set AN/ARN-30E (OMNI No. 2—configuration A, OMNI No. 1—configuration B); one Radio Receiving Set AN/ARN-30D (OMNI No. 1—configuration A, OMNI No. 2, configuration B); and one Direction Finder Set AN/ARN-59 (ADF No. 1); or

(3) One Radio Receiving Set AN/ARN-30E (OMNI No. 2—configuration A, OMNI No. 1—configuration B); and two Direction Finder Sets AN/ARN-59 (ADF No. 1 and No. 2).

Facility	Equipment or component	Configuration					Remarks
		A		B		C	
		ASAC	STD	ASAC	STD		
Gyromagnetic compass	Gyro Magnetic Compass Set AN/ASN-13:						
	Indicator, Induction Compass ID-567/ASN.	X	----	X	----	X	
	Transmitter, Induction Compass T-611/ASN.	X	----	X	----	X	
	Compensator, Magnetic Flux CN-405/ASN.	X	----	X	----	X	
	Amplifier, Electronic Control AM-1514/ASN.	X	----	X	----	X	
	Amplifier, Electronic Control AM-3209/ASN.	X	----	X	----	X	
	Indicator, Radio Magnetic ID-998/ASN.	X	----	X	----	X	
TACAN Navigation	TACAN Navigation Set AN/ARN-52(V):						figuration A and B rcraft may have either ID-663C/U or ID-250( )/ARN indicator installed.
	Receiver-Transmitter, Radio RT-384/ARN-52(V).	X	----	X	----	X	
	Control, Radio Set C-2010/ARN-52(V).	X	----	X	----	X	
	Mounting MT-1729/ARN-52(V).	X	----	X	----	X	
	Indicator, Bearing-Distance-Heading ID-663C/U.	X	----	X	----	X	
	Indicator, Course ID-387/ARN.	X	----	X	----	X	
	Antenna AT-741/A	X	----	X	----	X	
Vhf Navigation	Receiving Set, Radio AN/ARN-30D/E:						Control C-3436/ARN-30D installed in AN/ARN-30D.
	Control, Radio Set C-3436A/ARN-30D.	X	----	X	----	X	
	Receiver, Radio R-1021/ARN-30D.	X	----	X	----	X	

Facility	Equipment or component	Configuration					Remarks
		A		B		C	
		ASAC	STD	ASAC	STD		
	Converter, Signal Data CV-265A/ARN-30A.	X	----	X	----	X	
	Converter, Signal Data CV-1275/ARN.	X	----	X	----	X	
	Power Supply, PP-2792/ARN-30D.	X	----	X	----	X	
	Antenna AS-580A/ARN-30	X	----	X	----	X	
	Indicator, Course ID-453/ARN.	X	----	X	----	X	
Adf Navigation	Direction Finder Set AN/ARN-59(V):	X	----	X	----	X	Configuration A and B aircraft use ID-998, ID-250, or ID-663 for azimuth information.
	Receiver, Radio R-836/ARN.	X	----	X	----	X	
	Control, Receiver C-2275/ARN.	X	----	X	----	X	
	Indicator, Azimuth ID-637/ARN.	----	----	----	----	X	
	Antenna AT-780/ARN	X	----	X	----	X	
	Antenna, sense	X	----	X	----	X	
	Dynamotor DY-150/ARN	X	----	X	----	X	
Marker beacon receiver	Radio Receiving Set AN/ARN-12, AN/ARN-32, or R-1041/ARN.	X	X	X	X	X	
Glide slope facility	Receiver Group AN/ARA-54:	----	X	----	X		
	Receiver, Radio R-746/AR.	X	----	X	----	X	
	Panel, Control C-2055/AR						
Weather radar facility	Radar Set AN/APX-158	----	----	X	X		

1-6. Nomenclature and Common Names

The chart below lists the nomenclature and common name assignments for the electronic equipment components installed in the aircraft.

Nomenclature	*Common name*
Radio Set AN/ARC-102	Hf command set.
Receiver-Transmitter RT-698/ARC-102.	Hf receiver-transmitter.
Power Inverter-Mounting PP-3702/ARC-102.	Hf inverter.
Control, Radio Set C-3940/ARC-94.	Hf control panel.
Coupler, Antenna CU-1658/A	Hf antenna coupler.
Wire Antenna	Hf antenna.
Radio Set AN/ARC-54	Fm radio set.
Receiver-Transmitter, Radio RT-348/ARC-54.	Fm receiver-transmitter.
Coupler, Antenna CU-942/ARC-54.	Fm antenna coupler.
Control, Radio Set C-3835/ARC-54.	Fm control panel.
Antenna AS-1703/AR	Fm antenna.
Radio Set AN/ARC-131	Fm radio set.
Receiver-Transmitter RT-823/ARC-131.	Fm receiver-transmitter.
Control, Radio Set C-7088/ARC-131.	Fm control panel.
Computer, Voice Security TSEC/KY-28:	Secure voice computer.
Control Indicator, C-8157/ARC.	Control indicator.
Radio Set AN/ARC-51BX	Uhf command radio.
Receiver-Transmitter, Radio RT-742/ARC-51BX.	Uhf receiver-transmitter.
Mounting MT-2653/ARC	Uhf mounting.

Nomenclature	*Common name*
Control, Radio Set C-6287/ARC-51BX.	Uhf control panel.
Cooler, Air Electronic Equipment HD-615/ARC-51X.	External blower.
Indicator, Standing Wave Ratio ID-1003/ARC.	Vswr indicator.
Antenna AT-1108/ARC ------	Uhf/vhf antenna.
Radio Set AN/ARC-134 -----	Vhf radio set.
Receiver-Transmitter, Radio RT-857/ARC-134.	Vhf receiver-transmitter.
Control, Radio Set C-7197/ARC-134.	Vhf control panel.
Control, Intercommunication Set C-1611D/AIC.	Interphone control.
Transponder Set AN/APX-72_	IFF transponder set.
Receiver-Transmitter, Radar RT-859/APX-72.	IFF receiver-transmitter.
Control, Transponder Set C-6280A(P)/APX.	IFF control panel.
Antenna AT-884/APX-44 ---	IFF antenna.
Transponder Set AN/APX-44_	Alternate transponder set.
Receiver-Transmitter, Radar RT-494/APX-44.	Alternate IFF receiver-transmitter.
Mounting MT-2100/APX-44	Alternate receiver transmitter mount.
Control, Transponder Set C-2714A/APX-44.	Alternate IFF control panel.
Direction Finder Set AN/ARN-59(V):	Adf radio set.
Receiver, Radio R-836/ARN	Adf receiver.
Control, Receiver C-2275/ARN.	Adf control panel.
Indicator, Azimuth ID-637/ARN.	Adf indicator.
Dynamotor DY-150/ARN --	Adf dynamotor.
Antenna, sense ------------	Adf sense antenna.
Antenna AT-780/ARN -----	Adf antenna.
Receiving Set, Radio AN/ARN-30E or AN/ARN-30D:	Omni radio set.
Receiver, Radio R-1021/ARN-30D.	Omni receiver.

Nomenclature	*Common name*
Control, Radio Set C-3436A/ARN-30D.	Omni control panel.
Converter, Signal Data CV-1275/ARN.	Rmi converter.
Converter, or Signal Data CV-265A/ARN-30A.	Rmi converter.
Power Supply PP-2792/ARN-30D.	Omni dynaverter.
Indicator, Course ID-453/ARN-30.	Course indicator.
Antenna AS-580A/ARN-30_	Omni antenna.
Gyro Magnetic Compass Set AN/ASN-13:	Gyrocompass.
Indicator, Induction Compass ID-567/ASN.	Compass indicator.
Compensator, Magnetic Flux CN-405/ASN.	Compensator.
Transmitter, Induction Compass T-611/ASN.	Flux valve.
Amplifier, Electronic Control AM-1514/ASN.	Control amplifier.
Amplifier, Electronic Control AM-3209/ASN.	Servoamplifier.
Indicator, Radio Magnetic ID-998/ASN.	Rmi indicator.
TACAN Navigation Set AN/ARN-52(V):	TACAN navigation set.
Receiver-Transmitter RT-384/ARN-52(V).	TACAN receiver-transmitter.
Mounting MT-1729/ARN-52(V).	TACAN mounting.
Control, Radio Set C-2010/ARN-52(V).	TACAN control panel.
Indicator, Bearing-Distance-Heading ID-663C/U.	Indicator ID-663C/U.
Indicator, Course ID-387/ARN.	Course indicator.
Antenna AT-741/A ----------	TACAN antenna.
Indicator, Bearing-Heading ID-250( )/ARN.	Indicator ID-250.

CHAPTER 2

MAINTENANCE INSTRUCTIONS

Section I. GENERAL REQUIREMENTS

2–1. Scope of Organizational Maintenance

The maintenance duties assigned to the organizational maintenance repairman of the aircraft electronic equipment configuration are listed below, together with references to the applicable paragraphs covering the specific maintenance functions. These maintenance duties supplement the daily, intermediate, and periodic preventive maintenance checks and services contained in the aircraft organizational maintenance manual (TM 55-1510-201-20). The procedures covered in this manual will be performed concurrently with the aircraft periodic preventive maintenance checks and services. The results of the preventive maintenance checks and services will be recorded on applicable maintenance forms in accordance with instructions given in TM 38-750.

a. Periodic preventive maintenance checks and services (para 2–6).

b. Cleaning and repainting (para 2–7).

c. Troubleshooting (para 2–8 through 2–16).

d. Electronic equipment configuration repairs (para 2–17 through 2–38).

2–2. Tools, Test Equipment, and Materials Required

A list of parts authorized for organizational maintenance of the aircraft electronic equipment configuration appears in TM 55–1510–201–20P and TM 11–1510–201–20P. Major electronic equipment components, when removed from the aircraft for higher category maintenance are replaced by serviceable components from maintenance float stock or on a direct exchange (DX) basis from higher category maintenance organizations (direct support maintenance). Tools, materials, and test equipment required for organizational maintenance are listed below.

a. Tools. All tools required are contained in Tool Kit, Electronic Equipment TK–101/G.

b. Test Equipment.

Note. Coordinate with a higher category maintenance for test equipment not available at the organizational maintenance category.

(1) Multimeter AN/URM–105 (TM 11–6625–203–12).

(2) Test Set, Radio AN/URM–101A (TM 11–6625–1634–15).

(3) Radio Test Set AN/ARM–25.

(4) Signal Generator SG–13/ARN (TM 11–5556).

c. Materials.

(1) Fine sandpaper No. 000.

(2) Clean, dry, lint-free cloth.

(3) Soft bristle brush.

(4) Antiseize compound (MIL–T–5542B).

(5) Cleaning Compound.

(6) Safety wire, annealed corrosion resistant steel, spool; 0.32-inch diameter.

2–3. Fuse and Circuit Protective Device Locations

The charts below list the location and ratings of all accessible fuses and circuit breakers that provide circuit protection for the electronic equipment configurations. Be sure that fuses of the proper value are inserted in the fuseholders of all components indicated. Close all circuit breakers that have been tripped.

a. Fuse and Circuit Protective Device Locations (Configuration A)

Equipment	Rating	Location	Figure No.
Interphone control (pilot)	5 amperes	Subpanel	2–2
Interphone control (copilot)	5 amperes	Subpanel	2–2
Radio Set AN/ARC–102	50 amperes	Subpanel	2–2
Radio Set AN/ARC–54	15 amperes	Subpanel	2–2

Equipment	*Rating*	*Location*	*Figure No.*
Radio Set AN/ARC–51BX	15 amperes	Subpanel	2–2
	1 ampere	Cooler, Air, Electronic Equipment HD–615/ARC–51BX.	2–1
Radio Set AN/ARC–134	15 amperes	Subpanel	2–2
Transponder Set AN/APX–72 (provisions).	5 amperes	Subpanel	2–2
	10 amperes	Subpanel	2–2
TACAN Navigation Set AN/ARN–52(V).	5 amperes (AC)	Instrument Panel (copilot pos)	2–2
	5 amperes (DC)	Instrument Panel (copilot pos)	2–2
Gyro Magnetic Compass Set, AN/ASN–13.	5 amperes	Subpanel	2–2
	⅛ ampere (115 vac).	Amplifier, Electronic Control AM–1914/ASN.	2–1
26 VAC EXC	26 vac	Instrument Panel (copilot pos)	2–2
Receiving Set, Radio AN/ARN–30E (OMNI II).	5 amperes	Subpanel	2–2
Receiving Set, Radio AN/ARN–30D (OMNI I).	5 amperes	Subpanel	2–2
Direction Finding Set AN/ARN–59 (ADF I).	5 amperes	Subpanel	2–2
Direction Finding Set AN/ARN–59 (ADF II).	5 amperes	Subpanel	2–2
Computer, Voice Security TSEC/KY–28	5 amperes	Subpanel	2–2

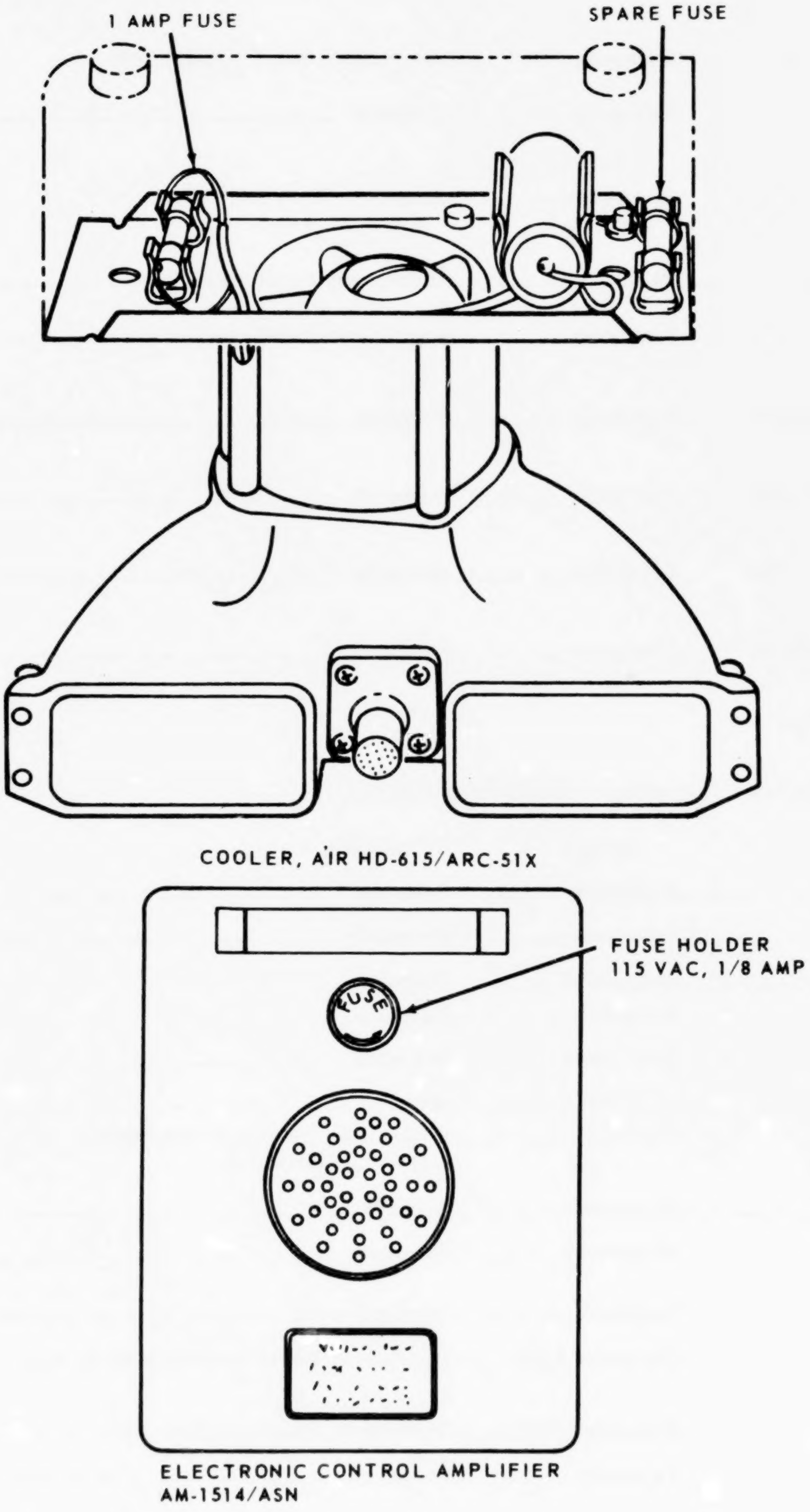
b. Fuse and Circuit Protective Device Locations (Configuration B).

Equipment	*Rating*	*Location*	*Figure No.*
Interphone control (pilot)	5 amperes	Instrument Panel (copilot pos)	2–3
Radio Set AN/ARC–54	15 amperes	Subpanel	2–3
Radio Set AN/ARC–51BX	15 amperes	Subpanel	2–3
	1 ampere	Cooler, Air, Electronic Equipment HD–615 ARC–51X.	2–1
Radio Set AN/ARC–102	50 amperes	Subpanel	2–3
AN/ARC–102 Coupler	5 amperes	Subpanel	2–3
Radio Set AN/ARC–134	15 amperes	Subpanel	2–3
Transponder Set AN/APX–72 (provisions).	10 amperes	Instrument Panel (copilot pos)	2–3
	5 amperes	Instrument Panel (copilot pos)	2–3

Equipment	*Rating*	*Location*	*Figure No.*
TACAN Navigation Set AN/ARN-52(V).	5 amperes (AC)	Instrument Panel (copilot pos)	2-3
	5 amperes (DC)	Instrument Panel (copilot pos).	
Gyro Magnetic Compass Set, AN/ASN-13.	5 amperes	Subpanel	2-3
	⅛ ampere (115 vac).	Amplifier, Electronic Control AM-1514/ASN.	2-1
26 VAC EXC	26 vac	Instrument Panel (copilot pos)	2-3
Computer, Voice Security TSEC/KY-28.	5 amperes	Instrument Panel (copilot pos)	2-3
Receiving Set, Radio AN/ARN-30E (OMNI I).	5 amperes	Subpanel	2-3
Receiving Set, Radio AN/ARN-30D (OMNI II).	5 amperes	Subpanel	2-3
Direction Finding Set AN/ARN-59 (ADF I).	5 amperes	Subpanel	2-3
Direction Finding Set AN/ARN-59 (ADF II).	5 amperes	Subpanel	2-3

c. Fuse and Circuit Device Locations (Configuration C).

Equipment	*Rating*	*Location*	*Figure No.*
Interphone control (pilot)	5 amperes	Subpanel	2-4
Interphone control (copilot)	5 amperes	Subpanel	2-4
Radio Set AN/ARC-102	50 amperes	Subpanel	2-4
	5 amperes	Subpanel	2-4
Radio Set AN/ARC-54	15 amperes	Subpanel	2-4
Radio Set AN/ARC-51BX	15 amperes	Subpanel	2-4
	1 ampere	Cooler, Air, Electronic Equipment HD-615 ARC-51X.	2-1
Radio Set AN/ARC-134	15 amperes	Subpanel	2-4
Transponder Set AN/APX-72 (provisions).	10 amperes	Subpanel	2-4
	5 amperes	Subpanel	2-4
TACAN Navigation Set AN/ARN-52(V).	5 amperes (AC)	Instrument Panel (copilot pos)	2-4
	5 amperes (DC)	Instrument Panel (copilot pos)	2-4
Gyro Magnetic Compass Set AN/ASN-13.	5 amperes	Subpanel	2-4
	⅛ ampere (115 vac).	Amplifier, Electronic Control AM-1214/ASN.	2-1
26 VAC EXC	26 vac	Instrument Panel (copilot pos)	2-4
Receiving Set, Radio AN/ARN-30E	5 amperes	Subpanel	2-4
Computer, Voice Security TSEC/KY-28.	5 amperes	Subpanel	2-4


1 AMP FUSE
SPARE FUSE
COOLER, AIR HD-615/ARC-51X
FUSE
FUSE HOLDER
115 VAC, 1/8 AMP
ELECTRONIC CONTROL AMPLIFIER
AM-1514/ASN

TM1510-201-20-C-7

Figure 2-1. Location of fuses on electronic equipment major components (configurations A, B, and C).

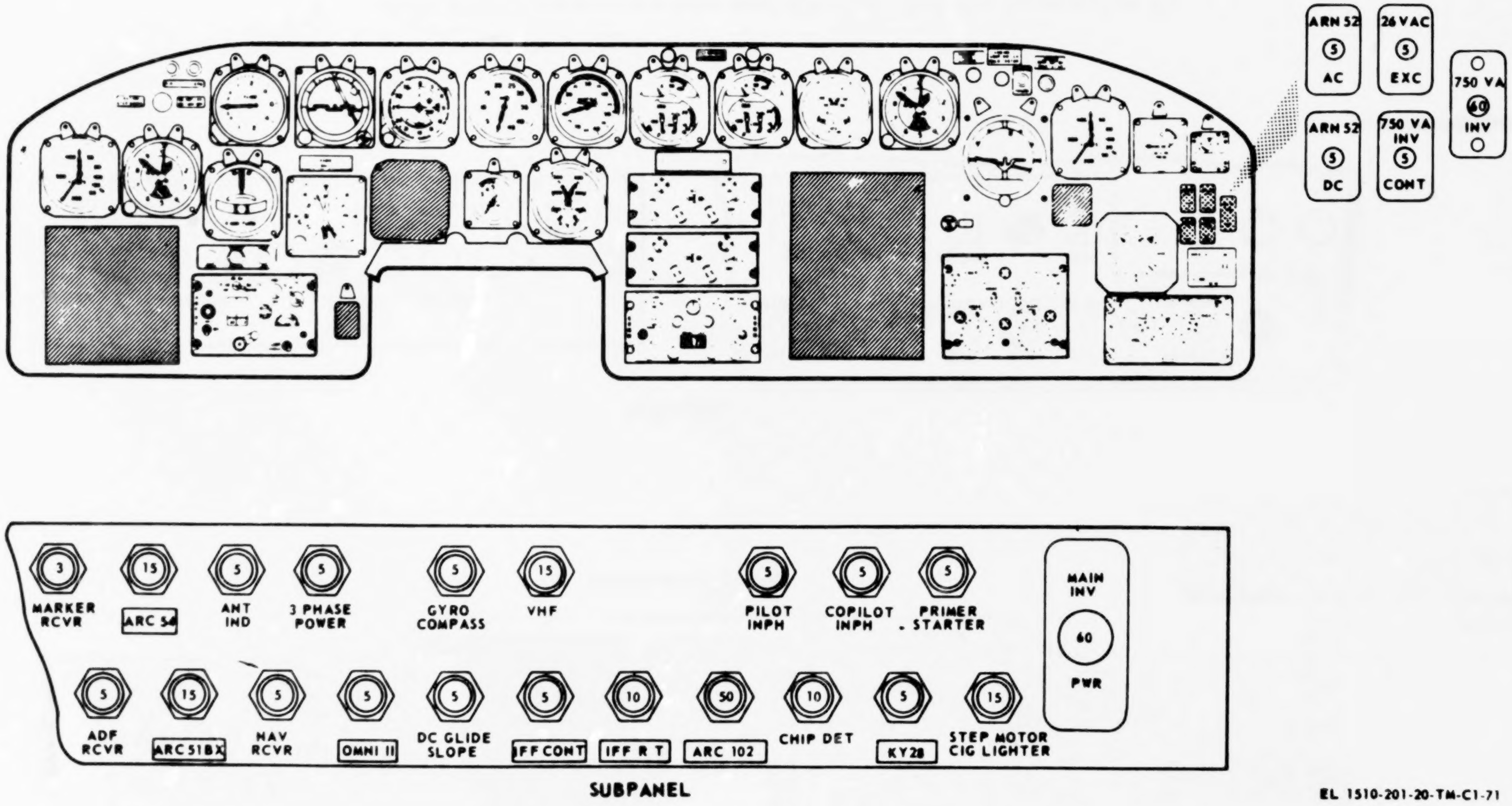

ARN 52
5
AC
26 VAC
5
EXC
ARN 52
5
DC
750 VA INV
5
CONT
750 VA
60
INV
3
MARKER RCVR
15
ARC 54
5
ANT IND
5
3 PHASE POWER
5
GYRO COMPASS
15
VHF
5
PILOT INPH
5
COPILOT INPH
5
PRIMER . STARTER
MAIN INV
60
PWR
5
ADF RCVR
15
ARC 51BX
5
NAV RCVR
5
OMNI II
5
DC GLIDE SLOPE
5
IFF CONT
10
IFF R T
50
ARC 102
10
CHIP DET
5
KY28
15
STEP MOTOR CIG LIGHTER
SUBPANEL
EL 1510-201-20-TM-C1-71

Figure 2–2. Location of electronic equipment circuit breakers (configuration A).

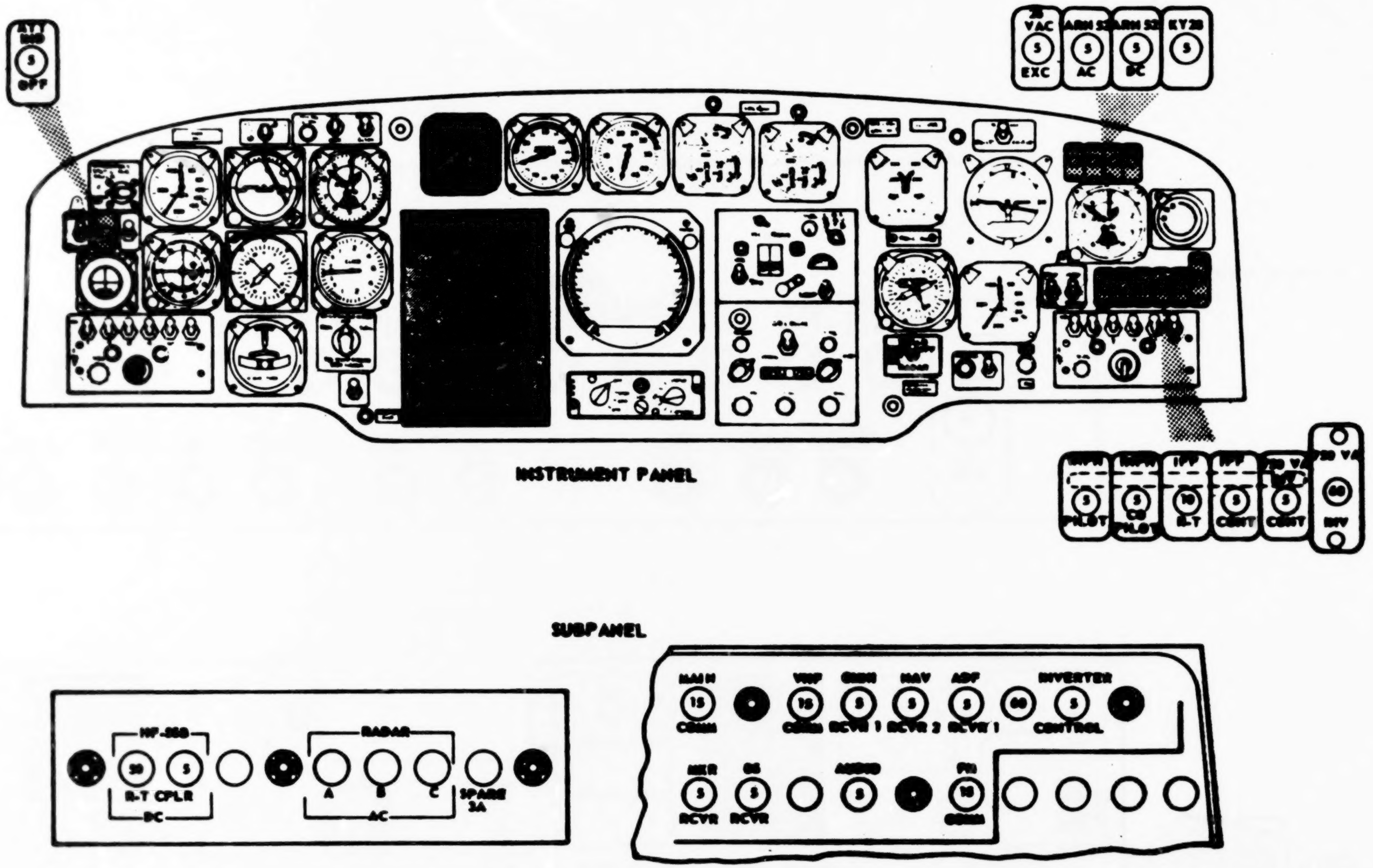
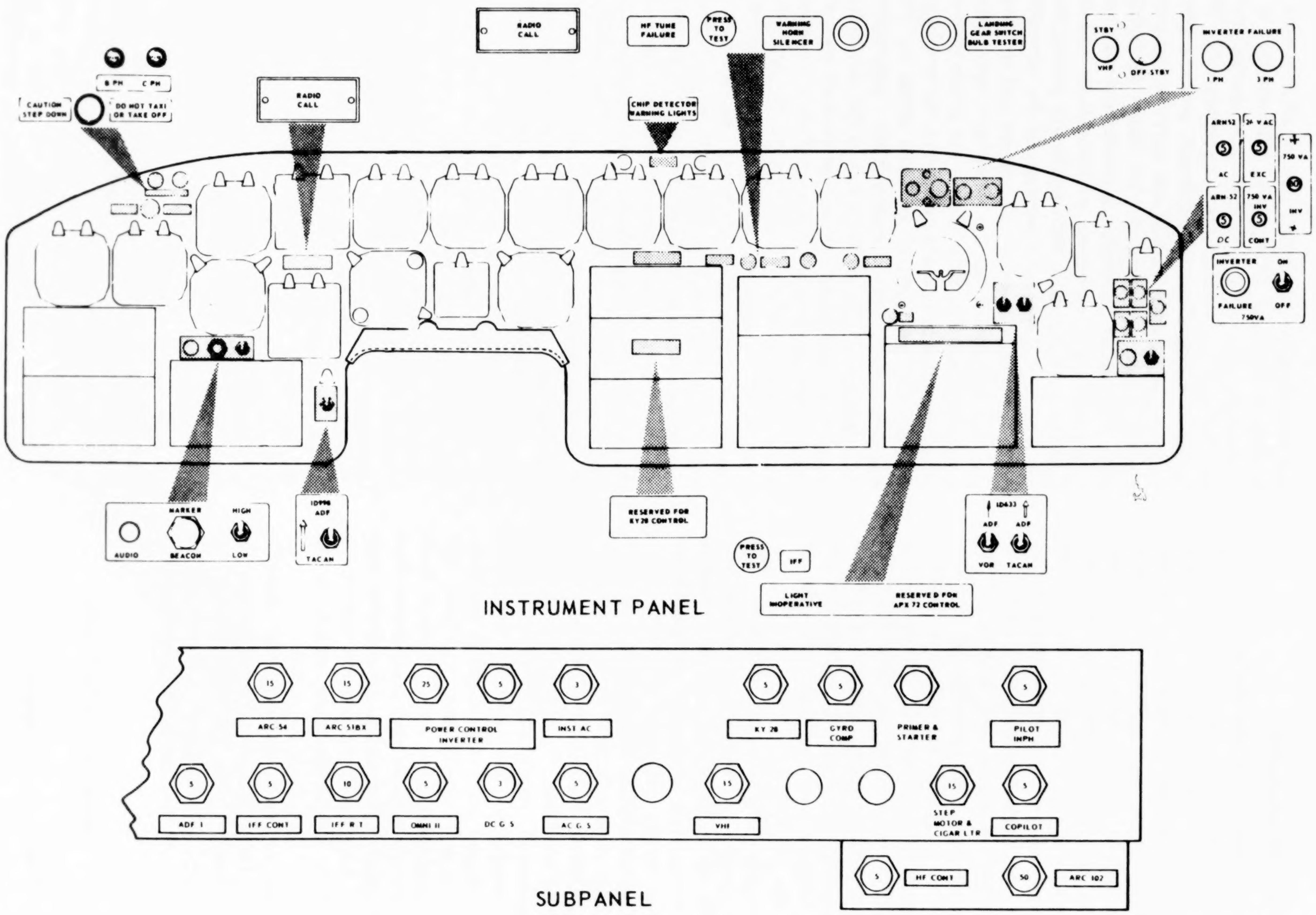

VAC
EXC
ARN 52
AC
ARN 52
DC
KY28
5
IFF
R-T
CONT
INV
60
PILOT
CO PILOT
INSTRUMENT PANEL
SUBPANEL
MAIN
COMM
15
VHF
COMM
COMM
RCVR 1
NAV
RCVR 2
ADF
RCVR 1
INVERTER
CONTROL
MKR
RCVR
GS
RCVR
AUDIO
FM
COMM
10
R-T CPLR
DC
30
RADAR
A
B
C
AC
SPARE
3A

Figure 2-3. Location of electronic equipment circuit breakers (configuration B).


RADIO CALL
B PH
C PH
CAUTION STEP DOWN
DO NOT TAXI OR TAKE OFF
RADIO CALL
HF TUNE FAILURE
PRESS TO TEST
CHIP DETECTOR WARNING LIGHTS
WARNING HORN SILENCER
LANDING GEAR SWITCH BULB TESTER
STBY
VHF
OFF STBY
INVERTER FAILURE
1 PH
3 PH
ARN52
AC
24 V AC
EXC
750 VA
INV
ARN 52
DC
750 VA INV
CONT
INVERTER
ON
FAILURE
OFF
750VA
MARKER
HIGH
AUDIO
BEACON
LOW
ID998 ADF
TACAN
RESERVED FOR KY28 CONTROL
PRESS TO TEST
IFF
LIGHT INOPERATIVE
RESERVED FOR APX 72 CONTROL
ID433
ADF
ADF
VOR
TACAN
INSTRUMENT PANEL
15
15
25
5
3
5
5
5
ARC 54
ARC 51BX
POWER CONTROL INVERTER
INST AC
KY 28
GYRO COMP
PRIMER & STARTER
PILOT INPH
5
5
10
5
3
5
15
15
5
ADF I
IFF CONT
IFF R T
OMNI II
DC G S
AC G S
VHF
STEP MOTOR & CIGAR LTR
COPILOT
5
HF CONT
50
ARC 102
SUBPANEL

TM1510-201-20-C-10

Figure 2-4. Location of electronic equipment circuit breakers (configuration C).

Section II. PREVENTIVE MAINTENANCE PROCEDURES

2-4. Preventive Maintenance

Preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, reduce downtime, and assure maximum operational capability. Preventive maintenance is the responsibility of all categories concerned with the electronic equipment configurations, and includes the inspection, testing, and repair or replacement of components that inspections and tests indicate would probably fail before the next scheduled service period. Preventive maintenance checks and services of the electronic equipment configuration for the aircraft at the organizational category are made at daily, intermediate, and periodic intervals (TM 55-1510-201-20) unless otherwise directed by the commander. The maintenance checks and services of the electronic equipment configurations should be performed concurrently with the inspection of the aircraft.

a. Maintenance Checks and Services. The maintenance checks and services procedures provided in TM 55-1510-201-20 and this manual outline functions to be performed at specific intervals. These checks and services are to maintain combat serviceability; that is, to maintain the aircraft and its electronic equipment configuration in good general (physical) condition and in good operating condition. To assist the organizational maintenance repairman in maintaining combat serviceability, the periodic preventive maintenance checks and services chart (para 2-6) indicates what to check, how to check, and what the normal conditions are; the *References* column list the paragraphs and publications that contain additional information. If a defect cannot be remedied by the organizational repairman, higher category maintenance or repair is required.

b. Maintenance Forms and Records. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750. Paragraph 1-3 contains additional information concerning the submission of specific forms.

2-5. Preventive Maintenance Checks and Services Intervals

a. General. Preventive maintenance checks and services are performed on the aircraft on a daily, intermediate, and periodic basis. The aircraft daily preventive maintenance checks and services are performed each calendar day, or after approximately 8 hours of flying time. The aircraft intermediate preventive maintenance checks and services are performed after approximately 25 hours of flying time. The aircraft periodic preventive maintenance checks and services are performed after approximately 100 hours of flying time. Preventive maintenance checks and services of the electronic equipment configurations will be scheduled concurrently with applicable preventive maintenance checks and services of the aircraft. Daily preventive maintenance checks and services are not performed on the electronic equipment configurations. The daily checks are accomplished when the pilot or operator performs the preflight checks. The preflight checks are given in TM 55-1510-201-10. The intermediate preventive maintenance checks and services of the electronic equipment configurations are performed concurrently with every second intermediate preventive maintenance checks and services of the aircraft. This action establishes an interval of approximately 50 flying hours between the electronic equipment configuration intermediate preventive maintenance checks and services. The intermediate preventive maintenance checks and services for the electronic equipment configurations are included in TM 55-1510-201-20. The periodic preventive maintenance checks and services of the electronic equipment configurations are performed concurrently with every second periodic preventive maintenance checks and services of the aircraft. This action establishes an interval of approximately 200 flying hours between the electronic equipment configurations periodic preventive maintenance checks and services. All deficiencies or shortcomings noted during the performance of the preventive maintenance checks and services of the electronic equipment configurations will be immediately reported to direct support maintenance personnel through the use of forms and procedures specified in TM 38-750. Equipment that has a deficiency that cannot be corrected at the organizational maintenance category should be deadlined and reported to higher category maintenance using the form specified in TM 38-750. Perform all the checks and services in the applicable preventive maintenance checks and services chart (para 2-6). Whenever a normal condition or result is not observed, take corrective action in accordance with the paragraph listed in the *References* column.

b. Periodic Pullout Checks. During the periodic preventive maintenance checks and services of the electronic equipment configurations certain major components are scheduled to be removed from the aircraft (*c* below) for bench checks and services. The bench checks and services of the electronic equipment major components are performed by direct support maintenance personnel. When the components are removed from the aircraft, they are replaced by equivalent serviceable components from maintenance float stock or on a direct exchange (DX) basis from the direct support maintenance organization.

c. Pullout Intervals. The chart below lists all the electronic equipment components in the aircraft electronic equipment configuration and indicates the interval that each component should be removed from the aircraft for bench check and internal preventive maintenance by direct support maintenance personnel.

NOTE

The dashline (——) in the *Pullout interval flying hours* column of the chart below indicates that the component is only removed when it is malfunctioning.

Component	*Pullout interval (flying hours)*
Control, Intercommunication Set C-1611D/AIC.	800
Control, Radio Set C-3910/ARC-94	—
Receiver-Transmitter RT-698/ARC-102	300
Power Inverter-Mounting PP-3702/ARC-102	800
Coupler, Antenna CU-1658/A	300
Control, Radio Set C-3835/ARC-54	600
Receiver-Transmitter, Radio RT-348/ARC-54.	300
Coupler, Antenna CU-942/ARC-54	500
Control, Radio Set C-6287/ARC-51BX	—
Receiver-Transmitter, Radio RT-742/ARC/51BX.	300
Indicator, Standing Wave Ratio ID-1003/ARC.	300
Cooler, Air, Electronic Equipment HD-615/ARC-51X.	300
Control, Transponder Set C-6280A(P)/APX	—
Receiver-Transmitter, Radar RT-859/APX-72	—
Indicator, Radio Magnetic ID-998/ASN	500
Receiver-Transmitter, Radio RT-384/ARN-52(V).	120
Control, Radio C-2010/ARN-52(V)	120
Indicator, Bearing-Distance-Heading ID-663C/U.	—
Indicator, ID-250( )/ARN	—
Indicator, Course ID-387/ARN	800
Control, Radio Set C-3436A/ARN-30D	—
Receiver, Radio R-1021/ARN-30D	400
Converter, Signal Data CV-1275/ARN	800
Power Supply PP-2792/ARN-30D	300
Receiver-Transmitter, Radio RT-857/ARC-134.	300
Control, Radio Set C-7197/ARC-134	—
Receiver-Transmitter, Radio RT-823/ARC-131.	500
Control, Radio Set C-7088/ARC-131	600
Receiver R-836/ARN	400
Control C-2275/ARN	—
Indicator ID-637/ARN	800

2-6. Periodic Preventive Maintenance Checks and Services Chart

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		POWER-OFF INSPECTION	
1	Entire configuration	Inspect entire configuration for completeness, general condition and cleanliness. Remove all electronic equipment scheduled for bench checks (para 2-5*c*).	Para 1-5.
2	Publications	Check to see that pertinent publications are available:	App. A.
		a. Operators manuals are complete and in usable condition without missing pages.	TM 55-1510-201-10.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		b. All changes pertinent to equipment are on hand.	
		c. Organizational maintenance manual is complete and in usable condition.	TM 55-1510-201-20.
3	Modification work orders	Check DA Pam 310-7 to determine if new applicable MWO's have been published. Check to see that all URGENT MWO's have been applied to equipment and that all NORMAL MWO's have been scheduled.	DA Pam 310-7.
4	Inverters	Clean main and spare inverters with cleaning compound; check for damage and evidence of overheating.	Para 2-7.
5	Wiring and connectors	Inspect all wiring and connectors for damage, deterioration, and security. Replace all wiring that is frayed or has broken connections.	Para 2-38.
6	Junction boxes	Use cleaning compound to clean exterior of junction boxes. Check for structural failure and loose connections.	Para 2-7.
7	Headset-microphones	Check headset-microphones, microphone adapters, and receptacles for damage. Check for frayed or broken wiring.	
8	Microphone switches	*a.* Check hand and foot switches for proper operation.	
		b. Check wiring for damage and deterioration.	
		c. Check foot switches for security and cleanliness.	
9	Control panels and instruments	*a.* Check all control panels and instruments for security and cleanliness.	
		b. Check all knobs for security and proper operation.	
		c. Check all switches for proper detent action.	
10	Equipment shock mounts	*a.* Insure that shock mounts are secure and bonded to platform assembly.	
		b. Check equipment clamps for lightness.	
11	Antennas	Inspect all antenna systems for:	
		a. Security of mounting.	
		b. Damage or signs of fatigue.	
		c. All insulators for cracks.	
		d. All exposed lead-ins and connectors for damage, frayed wires or deterioration.	
12	Equipment replacement	Replace all units of electronic equipment configuration that were removed for bench testing. Safety wire all units. Perform necessary adjustments to replace components.	Paras 2-18 through 2-38.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		POWER-ON INSPECTION *Note.* Before applying power to aircraft, be sure that aircraft master switch is off and all system circuit breakers are open.	
13	Auxiliary power unit ------------	Connect auxiliary power unit to aircraft and apply power.	
14	Control, Intercommunication Set C–1611D/AIC (configurations A, B, and C).	Close circuit breakers for both interphone controls and all equipment controlled by them. Place all interphone control RECEIVERS switches in down position. Energize all equipment and allow 5-minute warmup.	Para 2–9, item 1*a*.
		Rotate both interphone controls selector switches to INT. Adjust both interphone controls VOL controls to obtain comfortable listening level during interphone operation. DO NOT readjust interphone controls VOL controls during remainder of this test.	

Sequence No.	Item to be inspected	Procedure	References
		Rotate all radio and navigation equipment volume controls to minimum output positions. Select approved transmit frequencies for all receiver-transmitters, except emergency vhf.	TM 55-1510-201-10
		Place RECEIVERS 1 switch at ON for both interphone controls. Check to see that both interphone controls monitor output of fm receiver-transmitter. Return RECEIVERS 1 switch to OFF.	Para 2-11.
		Rotate selector switch on both interphone controls to position 1. Check to see that both interphone controls monitor fm receiver-transmitter. Check to see that both interphone controls can transmit on fm and have adequate sidetone.	Para 2-11.
		Place RECEIVERS 2 switch at ON for both interphone controls. Check to see that both interphone controls monitor output of uhf receiver-transmitter. Return RECEIVERS 2 switch to off.	Para 2-13.
		Rotate selector switch on both interphone controls to position 2. Check to see that both interphone controls monitor uhf receiver-transmitter. Check to see that both interphone controls can transmit on uhf and have adequate sidetone.	Para 2-13.
		Place RECEIVERS 3 switch at ON for both interphone controls. Check to see that both interphone controls monitor output of vhf receiver-transmitter. Return RECEIVERS 3 switch to off.	Para 2-12.
		Rotate selector switch on both interphone controls to position 3. Check to see that both interphone controls monitor vhf receiver-transmitter. Check to see that both interphone controls can transmit on vhf and have adequate sidetone.	Para 2-12.
		Place RECEIVERS 4 switch at ON for both interphone controls. Check to see that both interphone controls monitor output of HF receiver-transmitter. Return RECEIVERS 4 switch to off.	Para 2-10.
		Rotate selector switch on both interphone controls to position 4. Check to see that both interphone controls monitor output of hf receiver-transmitter. Check to see that both interphone controls can transmit on hf and have adequate sidetone.	Para 2-10.
		Place RECEIVERS INT switch at ON for pilot position. Rotate copilot's interphone control selector switch to INT. Check to see that copilot can talk to pilot. Return RECEIVERS INT switch to off for pilot and rotate copilot's selector switch away from INT position.	Para 2-9.

Sequence No.	Item to be inspected	Procedure	References
		Place copilot's RECEIVERS INT switch at ON. Rotate pilot's interphone selector switch to INT. Check to see that pilot can talk to copilot. Return copilot's RECEIVERS INT switch to off.	Para 2-9.
		Rotate selector switch on both interphone controls to INT. Check to see that two-way conversations can be held between both interphone controls.	Para 2-9.
		Rotate selector switch on both interphone controls to PVT. Check to see that two-way conversations (at reduced audio level) can be held between both interphone controls) and interphone control now operates in hot-microphone mode.	Para 2-9.
		Place RECEIVER NAV switch at ON for both interphone controls. Check to see that omni TACAN, adf, and marker beacon signals can all be monitored by both interphone controls. Return RECEIVER NAV switch to off for both interphone controls.	Para 2-15.
		On U-8F (configuration B) only, place pilot's RECEIVER NAV switch at ON and tune in a station on the adf radio set. Check operation of overhead speaker by setting SPEAKER switch on instrument panel to PILOT. Repeat these instructions for copilot.	
		Check to see that pilot's hand microphone is operative and that transmissions can be made using hand microphone. Repeat these instructions for copilot.	
		Turn IFF AUDIO ON. Note that IFF audio is monitored by both interphone controls whenever IFF responds to interrogation.	
		Place all interphone control RECEIVERS switches in down position. Open circuit breakers for interphone controls and all equipment controlled by them.	Para 2-9.
15	Radio set AN/ARC-102 (configurations A, B, and C).	Close hf command set and interphone control circuit breakers.	
		Set interphone control RECEIVERS 4 switch to ON, and interphone control selector switch to position 4.	Para 2-9.
		Place C-3940/ARC-94 mode selector switch to AM. Observe that blower on HF receiver-transmitter is operating. If it is not return mode selector switch to OFF and troubleshoot system.	Para 2-10.
		Observe HF receiver-transmitter monitor meter. Move meter selector switch to 28V and 130V; meter should indicate in red area.	Para 2-10, item No. 6.

Sequence No.	Item to be Inspected	Procedure	References
		On U-8D (configuration A) only; check HF TUNE FAILURE lamp on instrument panel by *push-to-test* method. *Note.* If this lamp illuminates at any time other than during push-to-test. DISCONTINUE TEST IMMEDIATELY.	
		Set C-3940/ARC-94 frequency controls to 16.080 mc. Note that received noise mutes during tuning of HF receiver-transmitter.	Para 2-10, item No. 2.
		Key HF-receiver-transmitter; note increase in speed of blower on HF receiver-transmitter. Also note tuning tone in headset indicating that HF antenna coupler is tuning to 16.080 mc. Tone should disappear within 10 seconds. If it does not disappear; HF TUNE FAILURE lamp should light and *test must be discontinued.* Unkey hf receiver-transmitter.	
		With HF receiver-transmitter keyed, observe monitor meter on HF receiver-transmitter. Move meter selector switch to 1500V, 130V, and 28V; meter should indicate in red area. Unkey HF receiver-transmitter.	Para 2-10, item No. 6.
		Disconnect coaxial jumper from 500 KC STD connector on HF receiver-transmitter front panel. Set meter selector switch to PA MA. Key HF receiver-transmitter and observe meter indication of approximately 300 ma. Unkey transmitter. Replace jumper and key HF receiver-transmitter; meter should indicate in red area. Speak briefly into microphone and note slight variance of meter indication.	Para 2-10, item No. 6.
		Set C-3940/ARC mode selector switch to LSB. Key HF receiver-transmitter and observe monitor meter; meter should indicate approximately 300 ma in PA MA position of meter selector switch. Speak briefly into microphone and note that meter indication follows audio with peaks of approximately 500 ma. Unkey HF receiver-transmitter. Repeat these procedures with mode selector switch set to USB. Reconnect HF receiver-transmitter to HF antenna coupler.	Para 2-10, item No. 6.
		Determine that HF receiver-transmitter and HF antenna coupler can be tuned over desired range by briefly keying HF receiver-transmitter at frequency settings of 2.000, 7.000, 12.000, 17.000, 22.000, 27.000, 29.000 mc. Closely observe HF TUNE FAILURE lamp during test.	

Sequence No.	Item to be inspected	Procedure	References
		Establish two-way communication with a distant station utilizing AM, USB, or LSB mode of operation. Check volume level, sidetone, and received audio and obtain report of transmitted signal quality.	Para 2-10, item No. 5.
		Secure test by setting C-3940/ARC-94 mode selector switch to OFF and opening circuit breakers which apply power to AN/ARC-102.	
16	Radio Set AN/ARC-54 (configurations A, B, and C), or Radio Set AN/ARC-131 (configuration A and B only).	Close FM radio set and interphone control circuit breakers, and energize interphone control by setting RECEIVERS 1 switch to up position and rotating interphone control selector switch to position 1.	Para 2-11, item No. 1.
		Set FM control panel mode control switch to PTT.	
		Set SQUELCH control to CARR.	Para 2-11, item No. 7.
		Adjust frequency controls to frequency of known FM station.	Para 2-11, item No. 5.
		Press transmit button, speak into microphone, and establish two-way communication.	Para 2-11, item No. 8.
		Set VOL control to comfortable audio level during communication.	
		Set mode control switch to OFF, and open FM radio set and interphone control circuit breakers.	
17	Radio Set AN/ARC-51BX (configurations A, B, and C).	Close uhf command radio and interphone control circuit breakers, and energize interphone controls by setting RECEIVERS 2 switch to ON and rotating interphone control selector switch to position 2.	
		Set uhf control panel function select switch to T/R.	
		Allow uhf command radio to warm up for 5 minutes.	Para 2-13.
		Set 10-, 1-, and 0.1-megacycle controls to control tower frequency.	
		Rotate VOL control to midpoint of its range.	
		Press microphone push-to-talk switch, and contact control tower.	Para 2-13, item No. 2.
		Adjust VOL control to obtain clear and comfortable audio level.	Para 2-13, item No. 2.
		Request communication checks frequencies that control tower guards at low, mid, and high ranges of bands.	
		Check clarity of received signal and sidetone, accuracy of tuning, and squelch operation at each frequency.	
		Request control tower to furnish a 2-second audio signal on guard receiver frequency (243 mc).	Para 2-13, item No. 5.
		Set function switch to T/R+G, and monitor audio signal; normal audio should be heard.	

Sequence No.	Item to be inspected	Procedure	References
		Set function select switch to **OFF**, and open uhf command radio and interphone control circuit breakers.	
18	Gyro Magnetic Compass Set AN/ASN-13. (configurations A, B, and C).	Close gyrocompass circuit breakers and energize system.	TM 55-1510-201-10.
		Set compass slaving switch, located on instrument panel, to COMPASS. Note that ID-998/ASN starts driving toward magnetic heading of aircraft.	Para 2-14, item No. 1.
		Synchronize compass by rotating knob on ID-998/ASN in direction indicated by annunciator on ID-998/ASN. Synchronism is accomplished when annunicator window is blank and ID-998/ASN indicates magnetic heading of aircraft.	Para 2-14, item 2.
		Set compass slaving switch to FREE DG. Note that compass heading may be slowed at will by synchronizing knob. A slow drift of the ID-998/ASN, not to exceed 1.0 in 4 minutes, may be observed in this mode. Return slaving switch to COMPASS.	Para 2-14, item 3.
		Deenergize gyrocompass.	
19		*Note.* Test Set, Radio AN/URM-101A (refer to applicable literature packed with the equipment) is required to perform this test.	
	TACAN Navigational Set AN/ARN-52(V) (configurations A, B, and C).	Close gyrocompass and TACAN navigation set circuit breakers and energize both systems.	TM 55-1510-201-10.
		Place interphone control NAV switch in up position.	
		Select TACAN as the input signal for pointer No. 2 of ID-998/ASN and ID-663C/U.	
		Position AN/URM-101A near aircraft so there is a clear line of sight between AN/URM-101A and aircraft TACAN antenna. Energize AN/URM-101A and allow 15-minute warmup.	
		Set COMPASS-FREE DG switch, on instrument panel, to FREE DG. Slew compass to a heading of 0.0°. Note that heading indication in ID-663C/U is 0° (±1.0°).	Para 2-15, item No. 6.
		Set C-2010/ARN-52(V) function selector switch to REC, and CHAN selector to any channel other than a local or test set channel; allow a 5-minute warmup.	Para 2-15, item No. 1.
		As equipment warms up, note the following: *a.* ID-998/ASN and ID-663C/U pointers No. 2 rotate continuously counterclockwise. *b.* Distance numerals on ID-663C/U remain stationary.	Para 2-15, items No. 3 and 5.

Sequence No.	Item to be inspected	Procedure	References
		c. Warning flag on the ID-663C/U and vertical pointer are visible. *d.* Warning flag on ID-387/ARN is visible.	
		Set C-2010/ARN-52(V) function selector switch T/R, and note the following: *a.* ID-998/ASN and ID-663C/U pointers No. 2 rotates continuously counterclockwise. *b.* Distance numerals on ID-663C/U rotate continuously. *c.* Warning flag on ID-663C/U and vertical pointer are visible. *d.* Warning flag on ID-387/ARN is visible.	Para 2-15, items No. 3 and 5.
		Set C-2010/ARN-52(V) function selector switch to A/A, and note the following: *a.* ID-998/ASN and ID-663C/U pointers No. 2 rotate continuously counterclockwise. *b.* Distance numerals on ID-663C/U rotate continuously. *c.* Warning flag on ID-663C/U and vertical pointer are visible. *d.* Warning flag on ID-387/ARN is visible.	Para 2-15, items 3 and 5.
		Set AN/URM-101A RANGE switch to zero, and AZIMUTH switch to 90°.	
		Set C-2010/ARN-52(V) function selector to T/R, and CHAIN selector to the AN/URM-101B channel, and note the following: *a.* Distance numerals on ID-663C/U should lock-on to 0 (±0.1) mile. *b.* ID-998/ASN and ID-663C/U pointers No. 2. should lock-on to 90° (±4°). *c.* Warning flag on ID-663C/U and vertical pointer should be out of sight. *d.* Warning flag on ID-387/ARN should be out of sight	Para 2-15, items No. 4 and 6.
		Set AN/URM-101A RANGE switch to 150. Note that distance numerals on ID-663C/U stay at zero for a few seconds, then search and lock-on to 150.0 (±1.0) miles.	Para 2-15, item No. 6.
		Set C-2010/ARN-52(V) function selector switch to REC, and note the following: *a.* ID-663C/U pointer No. 2 should lock-on to 90° (±4°). *b.* With vertical pointer of ID-387/ARN centered by adjustment of SET knob, course indication on ID-387/ARN should be 90° (±4°), and ambiguity indicator should read TO. Record course indication.	Para 2-15.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		c. Adjust SET knob of ID-387/ARN to obtain a right fullscale deflection of vertical pointer. Course indication on ID-387/ARN should be between 2° and 3° lower than that recorded in *b* above.	
		d. Adjust SET knob of ID-387/ARN to obtain a left fullscale deflection of vertical pointer. Course indication on ID-387/ARN should be between 2° and 3° higher than that recorded in *b* above.	
		Center vertical pointer of ID-387/ARN (course indication of 90° (±4°)). Slew compass on an aircraft heading of 50.0±4°. Relative heading indicator of ID-387/ARN should indicate aircraft heading to be to the left 40° (±4°).	
		Slew compass to an aircraft heading of 130.0°. Relative heading indicator of ID-387/ARN should indicate aircraft heading to be to the right 40° (±4°). Slew compass to 0.0°.	
		With course indicator of ID-387/ARN set to 270° (±4°) ambiguity indicator should read FROM.	
		Set AN/URM-101A AZIMUTH switch to 180°. Note that Pointers No. 2 of ID-998/ASN and ID-663C/U stay on 90° for a few seconds, then search and lock on to 180° (±4°).	Para 2-15.
		Set AN/URM-101A IDENTITY switch to ON. A 400-cycle tone of adequate level, adjustable by C-2010/ARN-52(V) VOL control, will be heard in headset.	
		Switch C-2010/ARN-52(V) CHAN selector to adjacent channel; tone will stop.	
		Secure test by setting C-2010/ARN-52(V) function selector switch to OFF and opening appropriate circuit breakers.	
20	Receiving Set, Radio AN/ARN-30E (configurations A, B, and C).	*Note 1.* Signal Generator SG-13/ARN is required to perform this test.	
		Note 2. Gyro Magnetic Compass Set AN/ASN-13 must be energized for this test.	
		Energize omni radio set (omni II, Configuration A, or omni I, Configuration B) by closing its circuit breaker and rotating C-3436A/ARN-30D VOL-OFF switch to midposition.	
		Set interphone control NAV switch in up position.	
		Select VOR (VOR II, Configuration A, or VOR I, Configuration B) as input signal for pointers No. 1 of ID-998/ASN and ID-663C/U (ID-250( )/ARN).	

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		Position Signal Generator SG–13/ARN in front of aircraft. Turn SG–13/ARN on, and allow a 5-minute warmup.	
		Check squelch action by rotating SQUELCH control counterclockwise. Background noise heard in this position should diminish as SQUELCH control is rotated clockwise.	
		Set COMPASS-FREE DG switch on instrument panel to FREE DG. Slew compass to head of 0.0° note that compass card on ID–663C/U indicates 0.0° (±1.0°).	Para 2–14, item No. 3.
		Proceed with VOR test; note the following:	Para 2–14.
		a. Select consecutively the 0° to 360° settings of SG–13/ARN VOR control. With vertical bar of ID–453/ARN–30 centered by adjustment of ID–453/ARN–30 COURSE SELECTOR knob, check to see that course indication on ID–998/ASN and ID–663C/U tracks VOR control settings.	

(1) VOR control	*ID–453/ARN30*	*TO/FROM*
0°	0° (±2°)	TO
45°	45° (±2°)	TO
90°	90° (±2°)	TO
135°	135° (±2°)	TO
180°	180° (±2°)	TO
225°	225° (±2°)	TO
270°	270° (±2°)	TO
315°	315° (±2°)	TO
0°	180° (±2°)	FROM

(2) VOR control	*ID–663C/U and ID–998/ASN*	*TO/FROM*
0°	0° (±2.5°)	TO
45°	45° (±2.5°)	TO
90°	90° (±2.5°)	TO
135°	135° (±2.5°)	TO
180°	180° (±2.5°)	TO
225°	225° (±2.5°)	TO
270°	270° (±2.5°)	TO
315°	315° (±2.5°)	TO
0°	0° (±2.5°)	FROM

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		b. Slew compass and note that pointer No. 1 and compass card of both ID–998/ASN and ID–663C/U move together so that pointer No. 1 always points to same heading indication on compass card.	Para 2–14, item No. 1.
		c. Select 0° setting of SG–13/ARN VOR control. Center vertical bar of ID–453/ARN–30 by adjusting ID–453–30 COURSE SELECTOR knob of 0°. Quickly adjust the COURSE SELECTOR knob to 10/°; vertical pointer should deflect to second dot on left in 4 (±2) seconds, and to fourth dot (±½ dot) in 10 seconds.	

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		d. Satisfactory audio output of the omni receiver.	
		Proceed with localizer test; note the following:	
		a. Pointer deflection is between third and fourth dot to the left for setting LOC-GS control to top line of LEFT segment, and between third and fourth dot to the right for setting LOC-GS control to top line of RIGHT segment; also, printer deflection is not more than two pointer widths into either blue or yellow when LOC-GS control is centered.	
		b. Make gross operating check at following frequencies: 108.0 mc 108.3 mc 108.5 mc 108.7 mc 108.9 mc 109.1 mc 109.3 mc 109.5 mc 109.7 mc 109.9 mc 110.1 mc 110.3 mc 110.5 mc 110.7 mc 110.9 mc 111.1 mc 111.3 mc 111.5 mc 111.7 mc 111.9 mc	
		Secure test by turning off omni radio set and opening appropriate circuit breakers. Secure SG-13/ARN.	
20.1	Receiving Set, Radio AN/ARN-30D (Configurations A and B) (where installed).	Repeat sequence 20 with VOR I signal input (U-8D) or VOR II signal input (U-8F).	
21	Radio Set AN/ARC-134 (configuations A, B, and C).	Close vhf radio set and interphone control circuit breakers, and energize interphone control by setting RECEIVERS 3 switch to ON and rotating interphone control selector switch to position 3.	Para 2-12, item No. 1.
		Set vhf control panel, OFF-PWR switch to PWR.	Para 2-12, item No. 2.
		Set meter switch on front of vhf receiver-transmitter to LINE V; meter should indicate approximately 27 volts.	Para 2-12, item No. 3.
		Set meter switch to REG SUP, meter should indicate approximately 20 volts.	Para 2-12, item No. 4.
		Set meter switch to OFF.	
		Set vhf control panel, frequency selector, to control tower frequency.	Para 2-12.

Sequence No.	*Item to be inspected*	*Procedure*	*References*
		Press transmit button, speak into microphone, and establish two-way communication. Check for the following. *a.* Transmitted message is received clear and audible by control tower. *b.* Received signals are clear and audible. *c.* Volume control varies audio level. Set vhf control panel OFF-PWR switch to OFF, and open vhf radio set and interphone control circuit breakers.	Para 2-12, item No. 6.

2-7. General Cleaning and Repainting Instructions

All weather surfaces of the equipment items should be free of dirt, grease, and fungus. Perform the procedures given below as specified in the preventive maintenance checks and services charts.

a. Remove moisture and loose dirt with a clean, soft cloth.

WARNING

Prolonged breathing of cleaning compound is dangerous; make sure adequate ventilation is provided: Cleaning compound is flammable; do not use near a flame. Avoid contact with the skin; wash off any that spills on the hands.

b. Remove grease, fungus, and ground-in dirt from the exterior surfaces with a clean cloth dampened (not wet) with the cleaning compound, wipe dry with a clean, dry, lint free cloth.

c. Clean the front panel and controls; use a clean soft cloth. If dirt is difficult to remove, dampen the cloth with water; if necessary, use mild soap.

d. Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion. Refer to the applicable cleaning and refinishing practices specified in TM 9-213 and TB 746-10.

Section III. TROUBLESHOOTING

2-8. General Troubleshooting Information

Troubleshooting of the aircraft electronic equipment configuration supplements the checks in the periodic preventive maintenance checks and services chart (para 2-6). To troubleshoot the equipment, perform all functions starting with sequence No. 14 in the periodic preventive maintenance checks and services chart and proceed through the items until an abnormal condition or result is observed; then refer to the troubleshooting chart (paras 2-9 through 2-16). If the corrective measures indicated do not result in correction of the trouble, higher category maintenance is required. Paragraphs 2-18 through 2-36 contain step-by-step instructions for performing equipment removal and replacement.

2-9. Troubleshooting Chart, Interphone Facility

Item No.	*Trouble symptom*	*Probable trouble*	*Checks and corrective measures*
1	No audio signals heard in headsets.	*a.* No power to system	*a.* Check interphone control circuit breakers.
		b. Defective cabling or loose connectors.	*b.* Repair cabling or tighten connectors.
		c. Defective microphone	*c.* Replace microphone.
		d. Defective foot switch	*d.* Replace foot switch.
		e. Defective interphone control	*e.* Replace interphone control (para (2-30).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
2	Audio signals heard from two channels when interphone controls selector switches are at different positions.	*a.* Defective interphone controls	*a.* Determine which interphone control is defective by substitution of interphone controls.
		b. Defective wiring	*b.* Repair interphone control wiring.

2-10. Troubleshooting Chart, HF Communication Facility

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	No background noise is heard in headset.	*a.* Interphone controls improperly set.	*a.* Check interphone controls for proper setting.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
		b. Defective power source or power connections.	*b.* Check power source and power cabling connections.
		c. Defective headset	*c.* Check headset and headset cabling. Replace as necessary.
		d. Defective HF receiver-transmitter	*d.* Replace HF receiver-transmitter (para 2-18).
2	HF command set is mute after desired frequency has been set.	*a.* Defective interconnecting cabling or connector.	*a.* Check interconnecting cable or connector. Refer to higher category maintenance for replacement of cable or connector.
		b. Defective frequency select knobs	*b.* Replace HF control panel (para 2-19).
		c. Defective tuning circuits in HF receiver-transmitter.	*c.* Replace HF receiver-transmitter (para 2-18).
3	100-cps tone not heard when microphone is pressed.	*a.* Defective Microphone	*a.* Replace microphone.
		b. HF receiver-transmitter improperly tuned.	*b.* Replace HF receiver-transmitter (para 2-18).
		c. Defective HF antenna coupler	*c.* Replace HF antenna coupler.
4	Volume cannot be controlled by adjusting RF SENS knobs.	Defective RF SENS knob	Replace HF control panel (para 2-19).
5	Two-way communication cannot be established.	*a.* Defective microphone	*a.* Replace microphone.
		b. Improper frequency setting	*b.* Check setting of frequency select knobs.
		c. Defective HF receiver-transmitter	*c.* Replace HF receiver-transmitter (para 2-18).
		d. Defective HF antenna coupler	*d.* Replace HF antenna coupler.
6	Meter does not indicate correct reading.	Defective HF receiver-transmitter	Replace HF receiver-transmitter (para 2-18).
7	Audio heard when mode selector switch is set to OFF.	Defective mode selector switch	Replace HF control panel (para 2-19).

2-11. Troubleshooting Chart, Communication Facility

Item No.	Trouble symptom	Probable trouble	Correction
1	FM control panel lamps do not light when power is applied to aircraft.	Panel lamps loose in sockets or burned out.	Check panel lamps for proper seating, and replace as necessary.
2	No background noise heard in headset.	*a.* Defective power source or power connections.	*a.* Check power source and power cabling connections.
		b. Defective headset	*b.* Check headset and headset cabling, replace as necessary.
		c. Defective FM receiver transmitter	*c.* Replace FM receiver-transmitter (para 2-21).
3	FM receiver-transmitter blower does not operate.	Defective blower motor	Remove and replace FM receiver-transmitter (para 2-21).
4	Frequency controls do not work properly.	Defective FM control panel or loose frequency control knobs.	Check knobs for tightness or remove and replace FM control panel if necessary (para 2-22).
5	FM radio set will not tune to desired frequency (controls working properly).	Defective FM control panel	Remove and replace FM control panel (para 2-22).
6	Excessive hum heard in headset.	Defective FM receiver-transmitter	Remove and replace FM receiver transmitter (para 2-21).
7	Squelch does not operate properly.	*a.* SQ ADJ control improperly set	*a.* Adjust SQ ADJ control.
		b. Defective FM control panel	*b.* Remove and replace FM control panel (para 2-22).
		c. Defective FM receiver-transmitter	*c.* Remove and replace FM receiver-transmitter (para 2-21).
8	FM radio set will receive but will not transmit.	Defective FM receiver-transmitter	Remove and replace FM receiver transmitter (para 2-21).

2-12. Troubleshooting Chart, Vhf Communication Facility

Item No.	Trouble symptom	Probable trouble	Correction
1	Vhf control panel frequency indicator dials do not glow when OFF-PWR switch is set to PWR.	*a.* VHF circuit breaker not set	*a.* Set circuit breaker.
		b. Defective panel lamp(s)	*b.* Replace panel lamp(s) (para 2-36*a*).
		c. Defective vhf control panel	*c.* Replace vhf control panel (para 2-28).
2	No audio in headset	*a.* Improper setting of interphone control switches or circuit breakers.	*a.* Check interphone control circuit breakers and switches.
		b. Defective headset	*b.* Replace headset.
		c. Defective vhf receiver-transmitter	*c.* Replace vhf receiver-transmitter (para 2-27).
		d. Defective vhf control panel	*d.* Replace vhf control panel (para 2-28).
3	Meter on vhf receiver transmitter does not indicate approximately 27 volts when meter switch is set to LINE V.	*a.* Defective aircraft dc power supply	*a.* Check aircraft dc power supply and repair as required.
		b. Defective vhf control panel	*b.* Replace vhf control panel (para 2-28).
		c. Defective vhf receiver-transmitter	*c.* Replace vhf receiver-transmitter (para 2-27).
4	Meter on vhf receiver transmitter does not indicate approximately 20 volts when meter switch is set to REG SUP.	Defective vhf receiver-transmitter	Replace vhf receiver-transmitter (para 2-27).
5	Vhf control panel frequency selector (s) inoperative, or desired frequency cannot be selected.	*a.* Defective vhf control panel	*a.* Replace vhf control panel (para 2-28).
		b. Defective vhf receiver-transmitter	*b.* Replace vhf receiver-transmitter (para 2-27).
6	Vhf radio set will receive but will not transmit.	Defective vhf receiver-transmitter	Replace vhf receiver-transmitter (para 2-27).

2-13. Troubleshooting Chart, Uhf Command Facility

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	External blower does not operate.	*a.* Blower fuse blown	*a.* Replace blower fuse (para 2-36*b*).
		b. Defective external blower	*b.* Replace uhf receiver-transmitter (para 2-25).
		c. Defective uhf control panel	*c.* Replace uhf panel (para 2-26).
		d. Defective uhf receiver-transmitter	*d.* Replace uhf receiver-transmitter (para 2-25).
2	No audio in headset	*a.* Defective headset	*a.* Replace headset.
		b. Defective uhf receiver-transmitter	*b.* Replace uhf receiver-transmitter (para 2-25).
3	Transmitter power output indication is less than 20 watts.	Defective uhf receiver transmitter	Replace uhf receiver-transmitter (para 2-25).
4	Reflected power indication is more than 5 watts.	*a.* Defective uhf receiver transmitter	*a.* Replace uhf receiver-transmitter (para 2-25).
		b. Improper cable connections between uhf receiver-transmitter and uhf antenna.	*b.* Check cable connections between uhf antenna and uhf receiver-transmitter.
		c. Defective vswr indicator	*c.* Replace uhf receiver-transmitter (para 2-25).
5	No guard receiver audio	*a.* Defective uhf receiver-transmitter	*a.* Replace uhf receiver-transmitter (para 2-25).
		b. Defective uhf control panel	*b.* Replace uhf control panel (para 2-26).

2-14. Troubleshooting Chart, Gyro Magnetic Compass Facility

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Indicator, Radio Magnetic ID-998/ASN does not drive toward heading.	*a.* Defective ID-998/ASN	*a.* Replace ID-998/ASN.
		b. Defective servoamplifier	*b.* Replace servoamplifier.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
2	Unable to synchronize compass.	Defective control amplifier	Replace control amplifier.
3	Unable to synchronize compass heading.	Defective control amplifier	Replace control amplifier.
4	Indicator, Radio Magnetic ID-998/ASN exceeds 1 drift in 4 minutes.	Defective ID-998/ASN	Replace ID-998/ASN.

2-15. Troubleshooting Chart, TACAN Navigation Facility

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	No channel selection	*a.* Defective TACAN control panel	*a.* Replace TACAN control panel (para 2-32).
		b. Defective TACAN receiver transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
2	Improper channel selection	*a.* Defective TACAN receiver-transmitter.	*a.* Replace TACAN control panel (para 2-32).
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
3	ID-663C/U does not search	*a.* Defective course indicator	*a.* Replace course indicator (para 2-34).
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
4	ID-663C/U does not lock-on.	*a.* Defective aircraft antenna system.	*a.* Check aircraft antenna system and continuity of cable connected to J-1029.
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
5	ID-663C/U (pointer No. 2, course indicator) does not search.	*a.* Defective course indicator	*a.* Replace course indicator (para 2-34).
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
6	ID-663C/U (pointer No. 2, course indicator does not lock-on.	*a.* Defective aircraft antenna system.	*a.* Check aircraft antenna system and continuity of cable connected to J-1029.
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).
7	ID-663C/U fails to lock-on a particular range, but functions properly at all other ranges.	Defective TACAN receiver-transmitter.	Replace TACAN receiver-transmitter (para 2-31).
8	Low range sensitivity (inability of TACAN equipment to track out maximum range).	Defective TACAN receiver-transmitter.	Replace TACAN receiver-transmitter (para 2-31).
9	No identity tone	Defective TACAN receiver-transmitter.	Replace TACAN receiver-transmitter (para 2-31).
10	Course indicator does not cross over.	*a.* Defective course indicator	*a.* Replace course indicator (para 2-34).
		b. Defective TACAN receiver-transmitter.	*b.* Replace TACAN receiver-transmitter (para 2-31).

2-16. Troubleshooting Chart, Vhf Navigation Facility

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Tone-modulated signal not receiver.	*a.* No power to omni receiver.	*a.* Check OMNI and interphone control circuit breakers.
		b. Defective interphone control.	*b.* Replace interphone control.
		c. Defective omni control panel.	*c.* Replace omni control panel.
2	Vertical flag alarm on ID-453/ARN-30 does not disappear.	*a.* Defective omni receiver.	*a.* Replace omni receiver.
		b. Defective rmi converter.	*b.* Replace rmi converter.
		c. Defective ID-453/ARN-30.	*c.* Replace course indicator.
		d. Defective omni control panel.	*d.* Replace omni control panel.
		e. Defective omni antenna.	*e.* Replace omni antenna.

No.	Trouble symptom	Probable trouble	Checks and corrective measures
3	Vertical pointer on ID-453/ ARN-30 does not center.	*a.* Defective omni receiver. *b.* Defective rmi converter. *c.* Defective ID-453/ARN-30. *d.* Defective omni control panel. *e.* Defective omni antenna.	*a.* Replace receiver. *b.* Replace rmi converter. *c.* Replace course indicator. *d.* Replace omni control panel. *e.* Replace omni antenna.
4	TO-FROM meter does not indicate TO.	*a.* Defective omni receiver. *b.* Defective rmi converter. *c.* Defective ID-453/ARN-30. *d.* Defective omni control panel. *e.* Defective omni antenna.	*a.* Replace omni receiver. *b.* Replace rmi converter. *c.* Replace course indicator. *d.* Replace omni control panel. *e.* Replace omni antenna.
5	Squelch control has no effect on omni receiver noise.	*a.* Defective omni control panel. *b.* Defective omni receiver.	*a.* Replace omni control panel. *b.* Replace omni receiver.

Section IV. ELECTRONIC EQUIPMENT CONFIGURATION REPAIRS

2-17. General Repairs Techniques

Repair of the aircraft electronic equipment configuration at the organizational maintenance category consists of removal of defective major electronic equipment components and replacement of these components with serviceable components from maintenance float stock. When the troubleshooting procedures indicate that a component is defective, follow the applicable removal procedures in this section. Replace the removed component with a known serviceable equivalent component. After the component has been replaced, install safety wiring on the mounting hardware and electrical connectors (para 2-37). If replacement of major components still does not correct the trouble, check the electronic equipment configuration wiring (fig. 4-1 through 4-40) and repair the wiring or cabling as required (para 2-38). Parts replacement procedures that can be performed at the organizational maintenance category are given in paragraph 2-36.

2-18. Removal and Replacement of Receiver-Transmitter RT-698/ARC-102
(fig. 2-5)

a. Removal.

(1) Disconnect the HF antenna coupler connector.

(2) Loosen the wingnuts which secure the unit to the mount.

(3) Pull the unit forward sufficiently to disconnect the electrical connector at the rear of the unit.

(4) Disconnect the electrical connector.

(5) Remove the unit by sliding it forward from the mount.

b. Replacement.

(1) Position the unit on the front of the mount.

(2) Connect the electrical connector at the rear of the unit.

(3) Slide the unit to the rear of the mount.

(4) Tighten the wingnuts to secure the unit to the mount.

(5) Connect the HF antenna coupler connector.

2-19. Removal and Replacement of Control, Radio Set C-3940/ARC-94
(fig. 2-6)

a. Removal.

(1) Unlock the four Dzus fasteners on the front of the unit.

(2) Pull the unit forward to reach the electrical connector.

(3) Disconnect the electrical connector.

(4) Remove the unit from the instrument panel.

b. Replacement.

(1) Position the unit in front of the instrument panel and connect the cable connector on the rear of the unit.

(2) Slide the unit into the instrument panel.

(3) Lock the four Dzus fasteners to secure the unit to the panel.

2-20. Removal and Replacement of HF Antenna
(fig. 2-7)

a. Removal.

(1) Loosen the upholstery on the upper left of the aircraft interior at the fuselage station 229.00 to reach the insulator.

(2) Disconnect the coaxial cable from the insulator on the inside of the aircraft.

(3) Unscrew the support sleeve from the elbow on the outside of the aircraft.

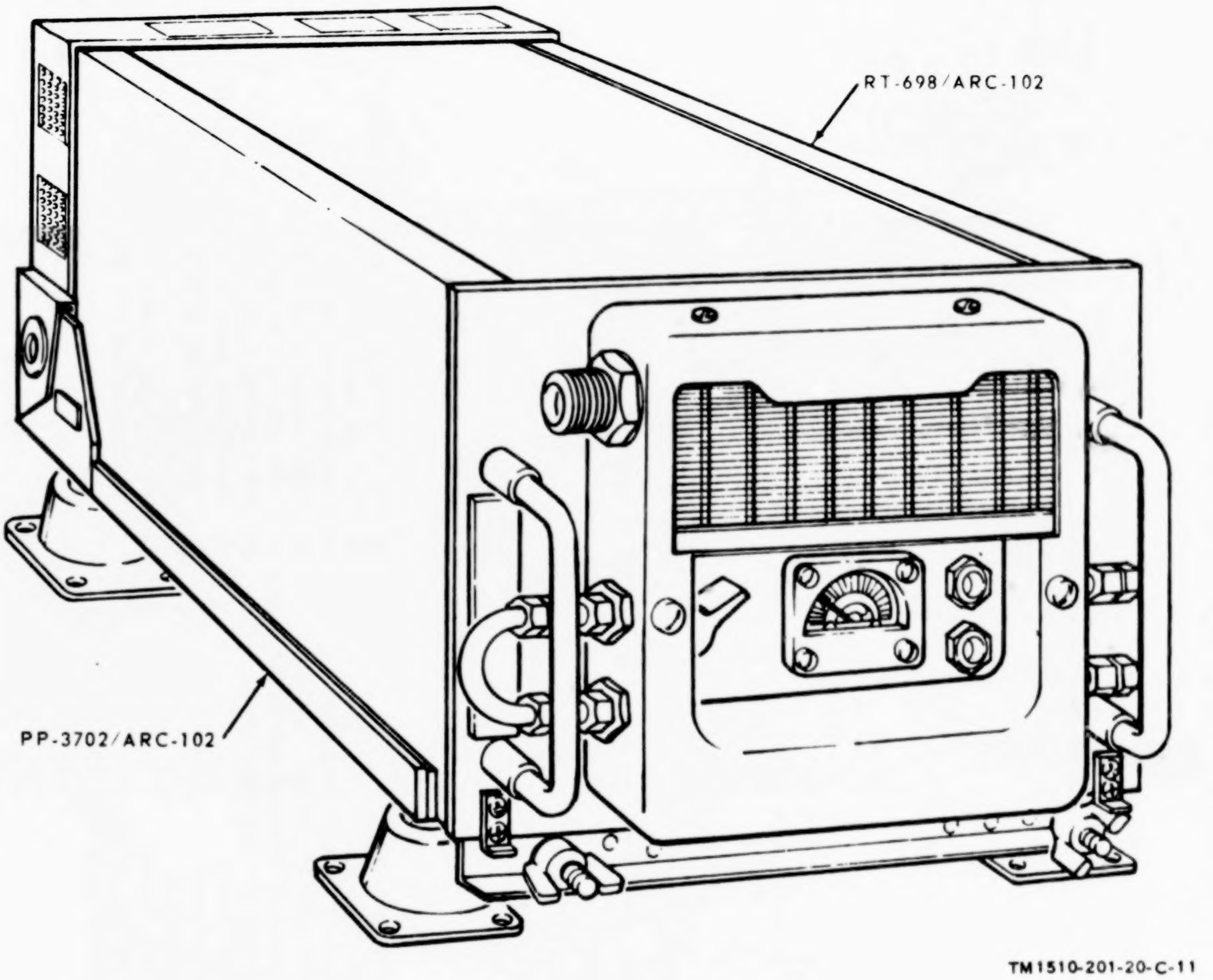


Figure 2-5. Receiver-Transmitter RT-698/ARC-102.

(4) Loosen (but do not remove) the six screws in the insulator retaining flange while the nuts are held on the inside of the aircraft by a second man.

(5) Unscrew the insulator (inside the aircraft) from the elbow (outside the aircraft) while the elbow is held in position by a second man on the outside of the aircraft.

(6) Lift the elbow from the aircraft and remove the elbow and the support sleeve from the HF antenna by slipping the wire out of the elbow and the support sleeve.

(7) Detach the shackle from the brackets which secure the hf antenna to the left and right wingtips by removing the cotter pins and the washers and sliding out the flathead clevis pins.

(8) Detach the shackle which secures the HF antenna to the bracket on the upper leading edge of the vertical stabilizer by removing the cotter pin and washer and sliding the flathead clevis pin out of the shackle and the support bracket.

(9) Remove the shackles from the HF antenna by slipping it out of the loops.

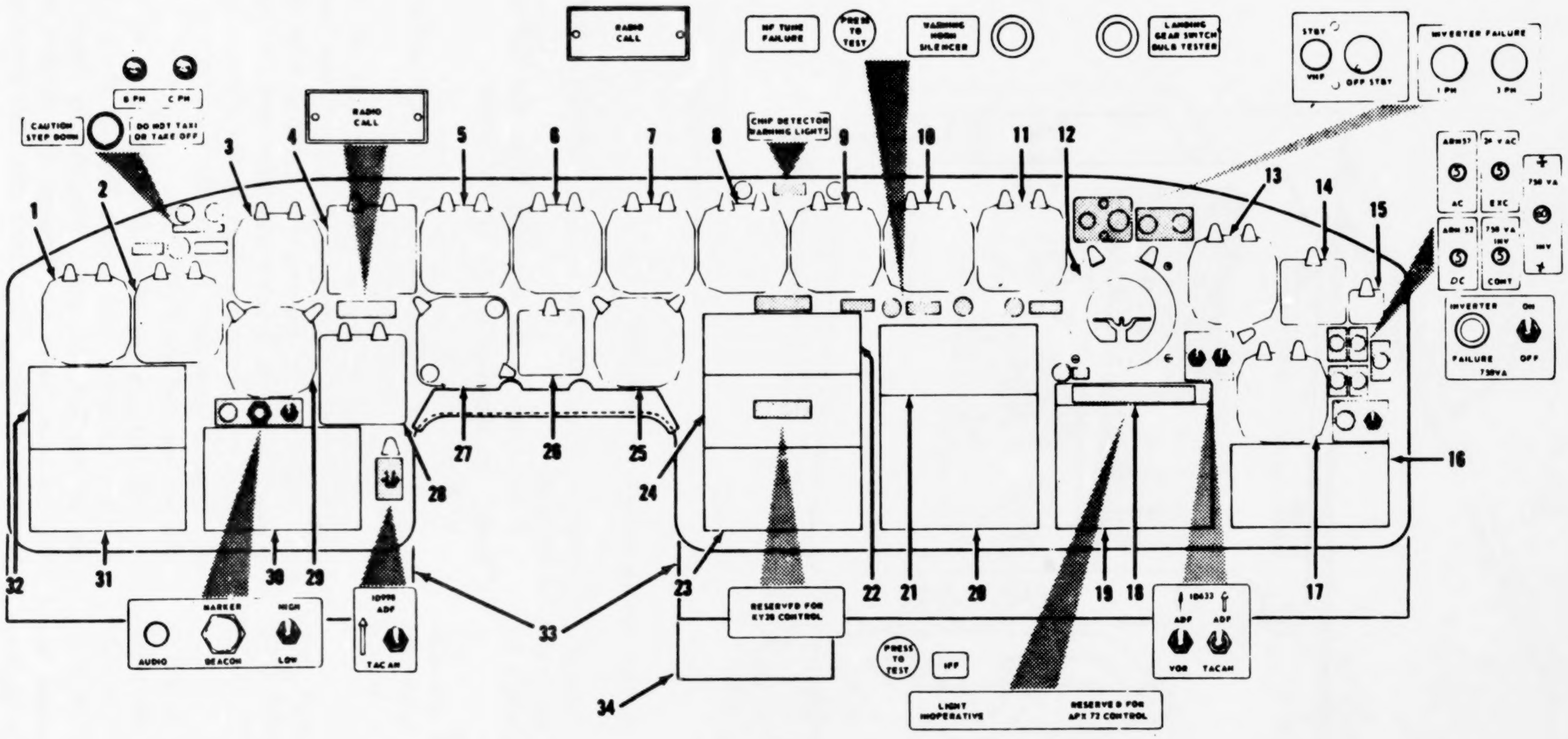
b. Replacement.

(1) Attach the shackles to the HF antenna by slipping it through the loops.

(2) Attach the antenna assembly to the bracket on the upper leading edge of the vertical stabilizer by placing the shackle over the lower hole in the bracket assembly and inserting the flathead clevis pin through the shackle and the bracket assembly. Secure the clevis pin with the washer and the cotter pin.

(3) Attach the shackles to the ends of the antenna assembly and secure them to the brackets on the left and right wingtips by inserting the flathead clevis pin through the shackle and the bracket. Secure the clevis pin with the washer and the cotter pin.

(4) Place the support sleeve and the elbow


1
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32
33
34
CAUTION STEP DOWN
DO NOT TAXI OR TAKE OFF
B PH
C PH
RADIO CALL
RADIO CALL
CHIP DETECTOR WARNING LIGHTS
HF TUNE FAILURE
PRESS TO TEST
WARNING HORN SILENCER
LANDING GEAR SWITCH BULB TESTER
STBY
VHF
OFF STBY
INVERTER FAILURE
1 PH
3 PH
AC
EXC
DC
CONT
750 VA
INV
INVERTER
ON
FAILURE
OFF
750VA
MARKER
BEACON
AUDIO
HIGH
LOW
ADF
TACAN
RESERVED FOR KY28 CONTROL
PRESS TO TEST
IFF
LIGHT INOPERATIVE
RESERVED FOR APX 72 CONTROL
ADF
ADF
VOR
TACAN

1. AIRSPEED INDICATOR
2. ALTIMETER
3. VERTICAL VELOCITY INDICATOR
4. ATTITUDE INDICATOR (PRIMARY)
5. COURSE INDICATOR-SELECTOR
6. TACHOMETER
7. MANIFOLD PRESSURE GAGE
8. LEFT ENGINE GAGE UNIT
9. RIGHT ENGINE GAGE UNIT
10. CARBURETOR AIR TEMPERATURE GAGE
11. ALTIMETER
12. ATTITUDE INDICATOR (STANDBY)
13. AIRSPEED INDICATOR
14. DEICER PRESSURE GAGE
15. PROPELLER ANT-ICER FLUID GAGE
16. INTERPHONE CONTROL PANEL, C-1611D
17. BEARING DISTANCE HEADING INDICATOR, ID-663U
18. PROVISIONS FOR IFF CONTROL APX-72
19. IFF CONTROL PANEL
20. UHF CONTROL PANEL
21. HF CONTROL PANEL
22. OMNI CONTROL PANEL
23. VHF/FM CONTROL PANEL
24. PROVISIONS FOR KY28 CONTROL
25. CYLINDER HEAD TEMPERATURE GAGE
26. SUCTION GAGE
27. COURSE INDICATOR, ID-998
28. RADIO MAGNETIC INDICATOR, ID-998
29. TURN AND SLIP INDICATOR
30. ADF CONTROL PANEL
31. INTERPHONE CONTROL PANEL, C-1611D
32. TACAN CONTROL PANEL, C-2010
33. SUB PANEL
34. VHF CONTROL PANEL
(CONFIGURATION "C" ONLY)

TM1510-201-20-C-12 ①

Figure 2-6. Instrument panel, configuration C

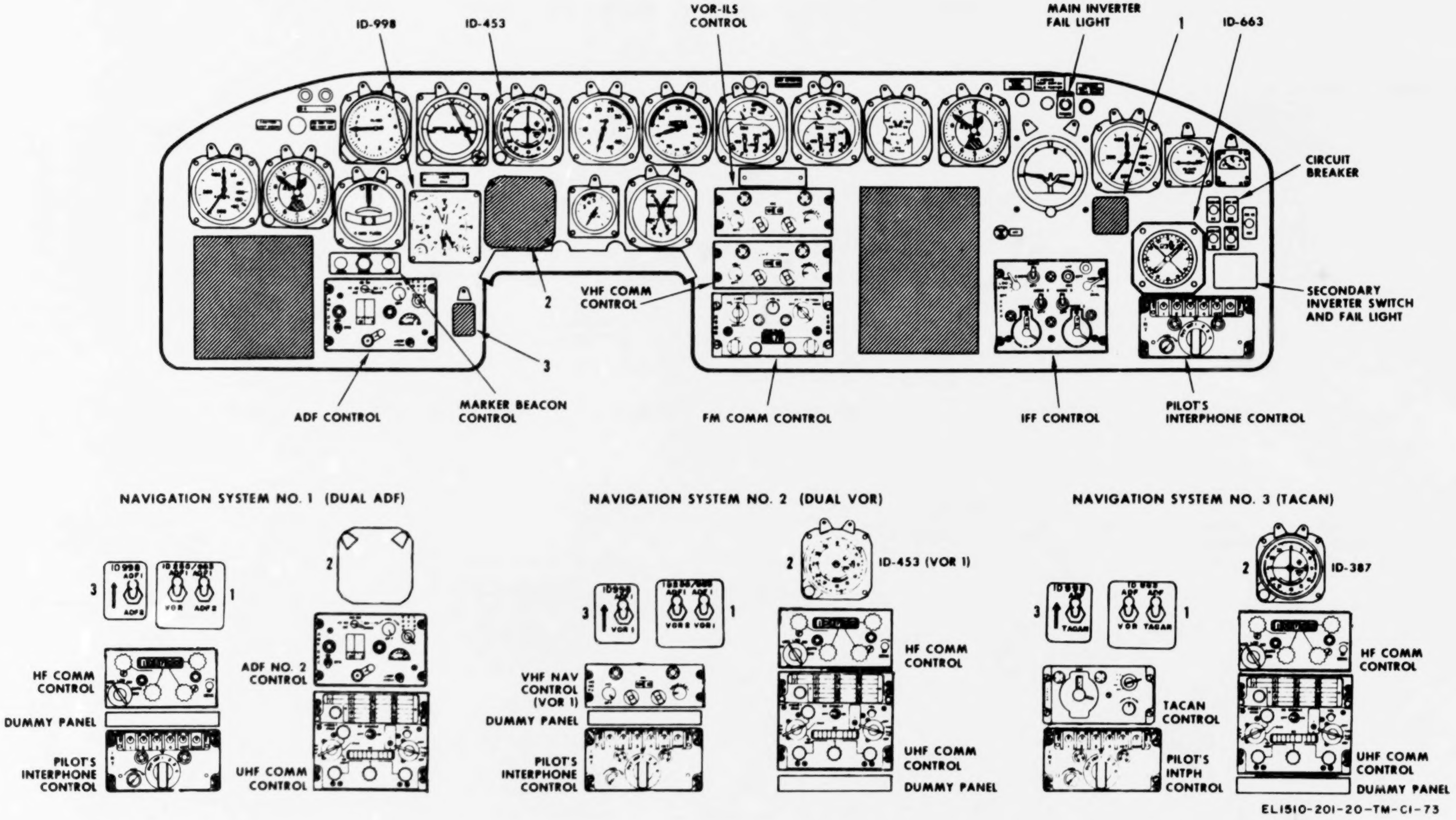

ID-998
ID-453
VOR-ILS CONTROL
MAIN INVERTER FAIL LIGHT
1
ID-663
CIRCUIT BREAKER
SECONDARY INVERTER SWITCH AND FAIL LIGHT
2
VHF COMM CONTROL
3
ADF CONTROL
MARKER BEACON CONTROL
FM COMM CONTROL
IFF CONTROL
PILOT'S INTERPHONE CONTROL
NAVIGATION SYSTEM NO. 1 (DUAL ADF)
3
1
2
HF COMM CONTROL
DUMMY PANEL
PILOT'S INTERPHONE CONTROL
ADF NO. 2 CONTROL
UHF COMM CONTROL
NAVIGATION SYSTEM NO. 2 (DUAL VOR)
2
ID-453 (VOR 1)
3
1
VHF NAV CONTROL (VOR 1)
DUMMY PANEL
PILOT'S INTERPHONE CONTROL
HF COMM CONTROL
UHF COMM CONTROL
DUMMY PANEL
NAVIGATION SYSTEM NO. 3 (TACAN)
2
ID-387
3
1
TACAN CONTROL
PILOT'S INTPH CONTROL
HF COMM CONTROL
UHF COMM CONTROL
DUMMY PANEL
EL1510-201-20-TM-C1-73

Figure 2–6.1 Instrument panel (configuration A[ASAC]).

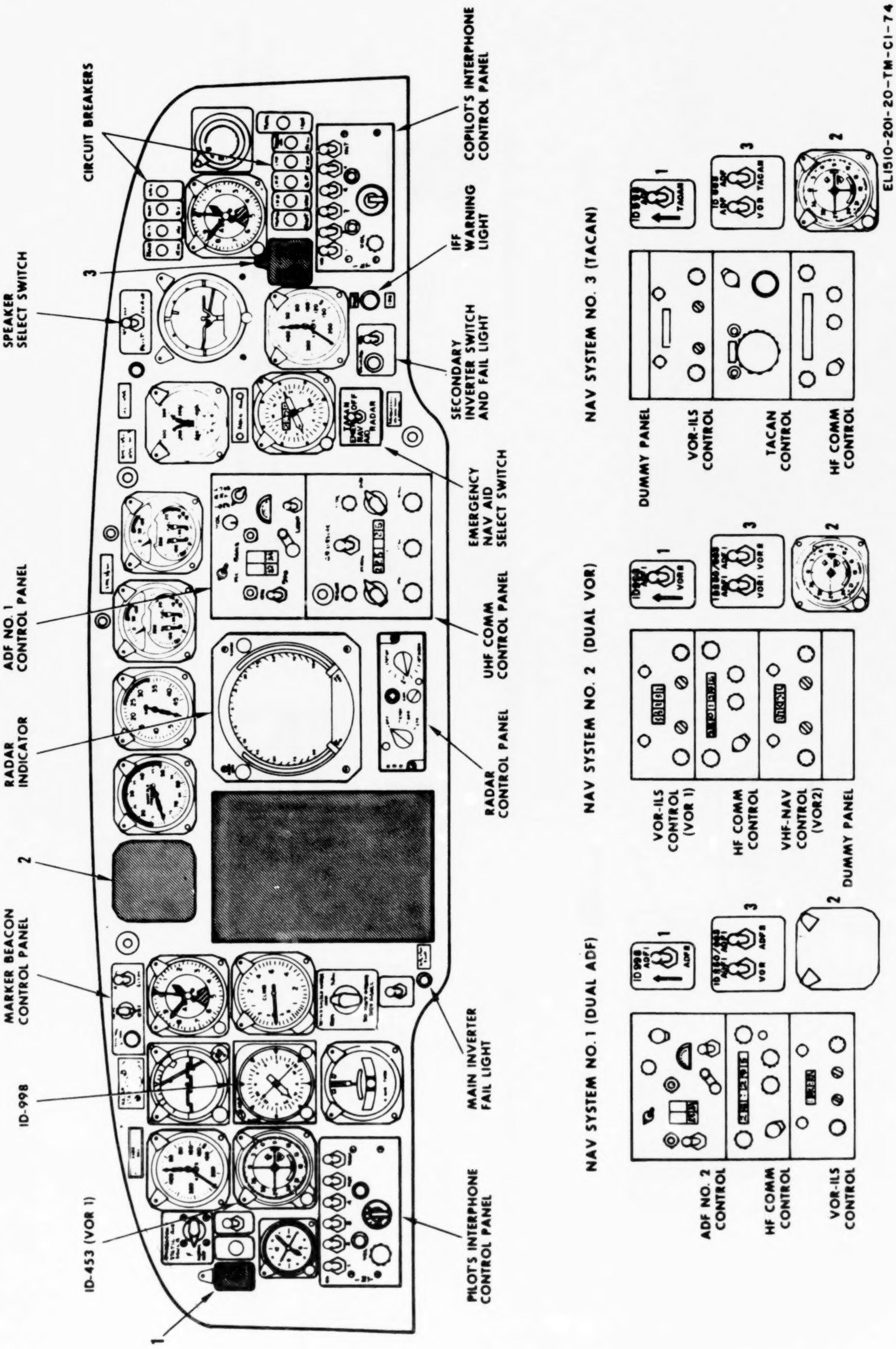

ID-453 (VOR 1)
1
ID-998
MARKER BEACON CONTROL PANEL
2
RADAR INDICATOR
ADF NO. 1 CONTROL PANEL
SPEAKER SELECT SWITCH
3
CIRCUIT BREAKERS
PILOT'S INTERPHONE CONTROL PANEL
MAIN INVERTER FAIL LIGHT
RADAR CONTROL PANEL
UHF COMM CONTROL PANEL
EMERGENCY NAV AID SELECT SWITCH
SECONDARY INVERTER SWITCH AND FAIL LIGHT
IFF WARNING LIGHT
COPILOT'S INTERPHONE CONTROL PANEL
NAV SYSTEM NO. 1 (DUAL ADF)
ADF NO. 2 CONTROL
HF COMM CONTROL
VOR-ILS CONTROL
NAV SYSTEM NO. 2 (DUAL VOR)
VOR-ILS CONTROL (VOR 1)
HF COMM CONTROL
VHF-NAV CONTROL (VOR2)
DUMMY PANEL
NAV SYSTEM NO. 3 (TACAN)
DUMMY PANEL
VOR-ILS CONTROL
TACAN CONTROL
HF COMM CONTROL
TACAN
RADAR
EL1510-201-20-TM-C1-74

Figure 2–6.2 Instrument panel (configuration B[ASAC]).

on the lead-in wire by sliding the wire through the center hole.

(5) Insert lead in wire in the center hole of the insulator on the upper left side of the aircraft.

Note. Remove the cap from the inside of the insulator before inserting the wire. Clip the excess wire and replace the cap after the wire is installed.

(6) Place the elbow (outside of the aircraft) in the insulator (inside of the aircraft) and tighten it by turning the insulator while the elbow is held in position by a second man.

(7) Tighten the six screws in the insulator retaining flange from outside the aircraft while a second man holds the nuts inside the aircraft.

(8) Screw the support sleeve into the elbow until it is tight.

(9) Connect the coaxial cable to the insulator inside the aircraft and reattach the upholstery.

2-21. Removal and Replacement of Receiver-Transmitter, Radio RT-348/ARC-54 or RT-823/ARC-131 (fig. 2-8)

a. Removal.

(1) Lift the catch on the locking handle.

(2) Pull the locking handle out and down until connectors are disengaged.

(3) Slide the unit forward until the positioning pins are clear of the mount.

(4) Lift the unit from the mount.

b. Replacement.

(1) Position the unit on the mount.

(2) Slide the unit aft into the mount while watching for alignment of the positioning pins.

(3) Pull the locking handle out and up until the connector can be engaged.

(4) Lock the unit into position.

2-22. Removal and Replacement of Control Radio Set C-3835/ARC-54 or C-7088/ARC-131 (Fig. 2-6)

a. Removal.

(1) Unlock the four Dzus fasteners that secure the unit to the instrument panel.

(2) Pull the unit forward to reach the electrical connector.

(3) Disconnect the electrical connector at the rear of the unit.

(4) Remove the unit from the instrument panel.

b. Replacement.

(1) Position the unit in front of the instrument panel opening.

(2) Connect the electrical connector at the rear of the unit.

(3) Slide the unit into the instrument panel and lock the four Dzus fasteners.

2-23. Removal and Replacement of Antenna AS-1703/AR
(fig. 2-9)

a. Removal. Unscrew the threaded base of the frequency-modulated (FM) antenna from the FM antenna coupler.

b. Replacement. Screw the threaded base of the FM antenna into the receptacle on the FM antenna coupler.

2-24. Removal and Replacement of Coupler, Antenna CU-942/ARC-54
(fig. 2-9)

a. Removal.

(1) Remove the screws that secure the unit to the mounting.

(2) Lift the unit away from the spacer far enough to disconnect the electrical and radiofrequency (RF) connectors.

(3) Remove the unit from the mount.

b. Replacement.

(1) Connect the electrical and RF connectors to the unit.

(2) Position the unit on the spacer and secure it to the mounting with the existing screws.

2-25. Removal and Replacement of Receiver-Transmitter, Radio RT-742/ARC-51BX
(fig. 2-8)

a. Removal.

(1) Disconnect the uhf/vhf antenna and the electrical connectors.

(2) Disconnect the bonding strap at each rear corner of the unit.

(3) Loosen the wingnuts that secure the unit to the mount.

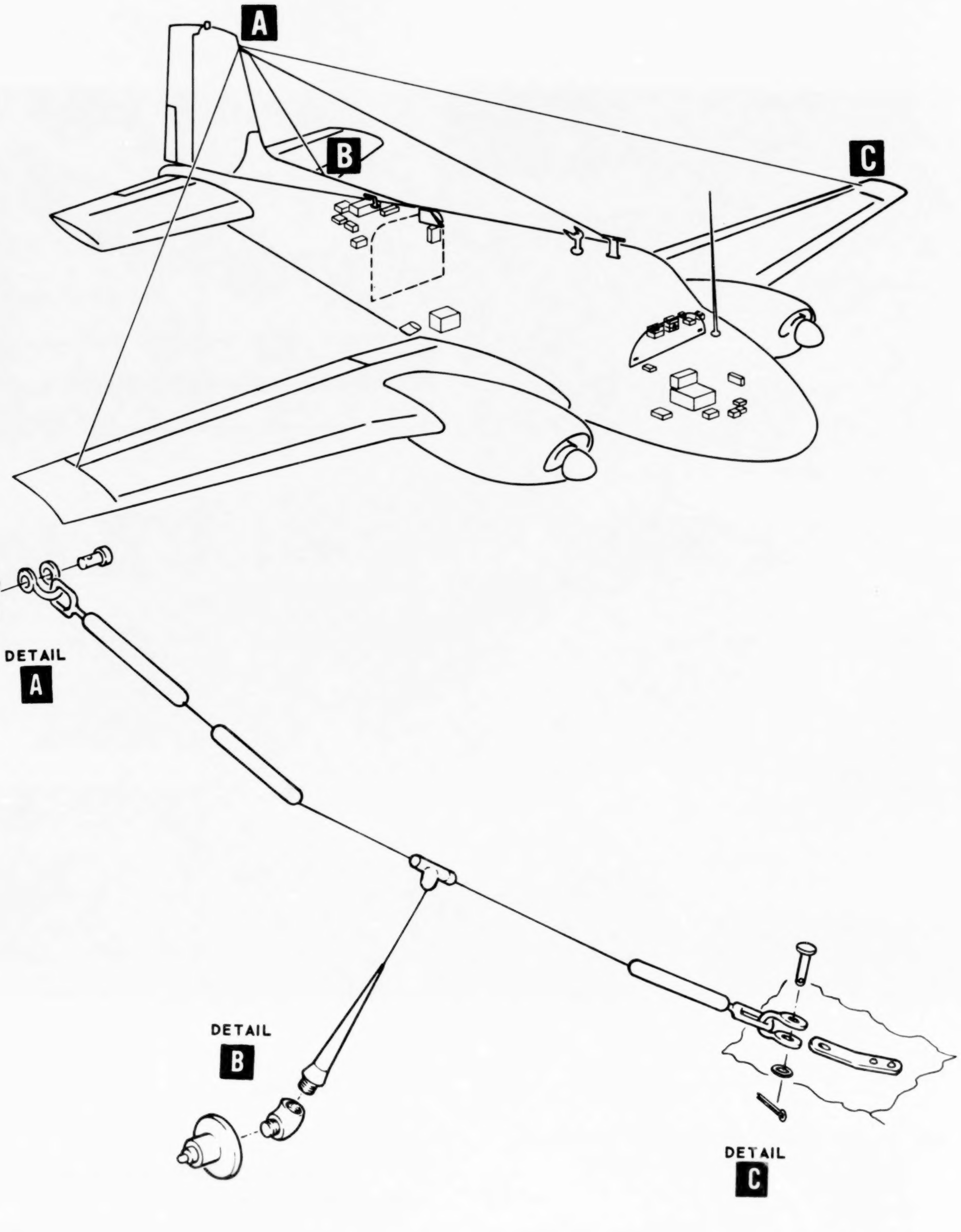
(4) Lift the unit from the mount.

b. Replacement.

(1) Position the unit in the mount and tighten the wingnuts.

(2) Connect the bonding strap to each rear corner of the unit.

(3) Connect the uhf/vhf antenna and the electrical connectors.


A
B
C
DETAIL
A
DETAIL
B
DETAIL
C

TM1510-201-20-C-13

Figure 2-7. HF antenna (configuration A).

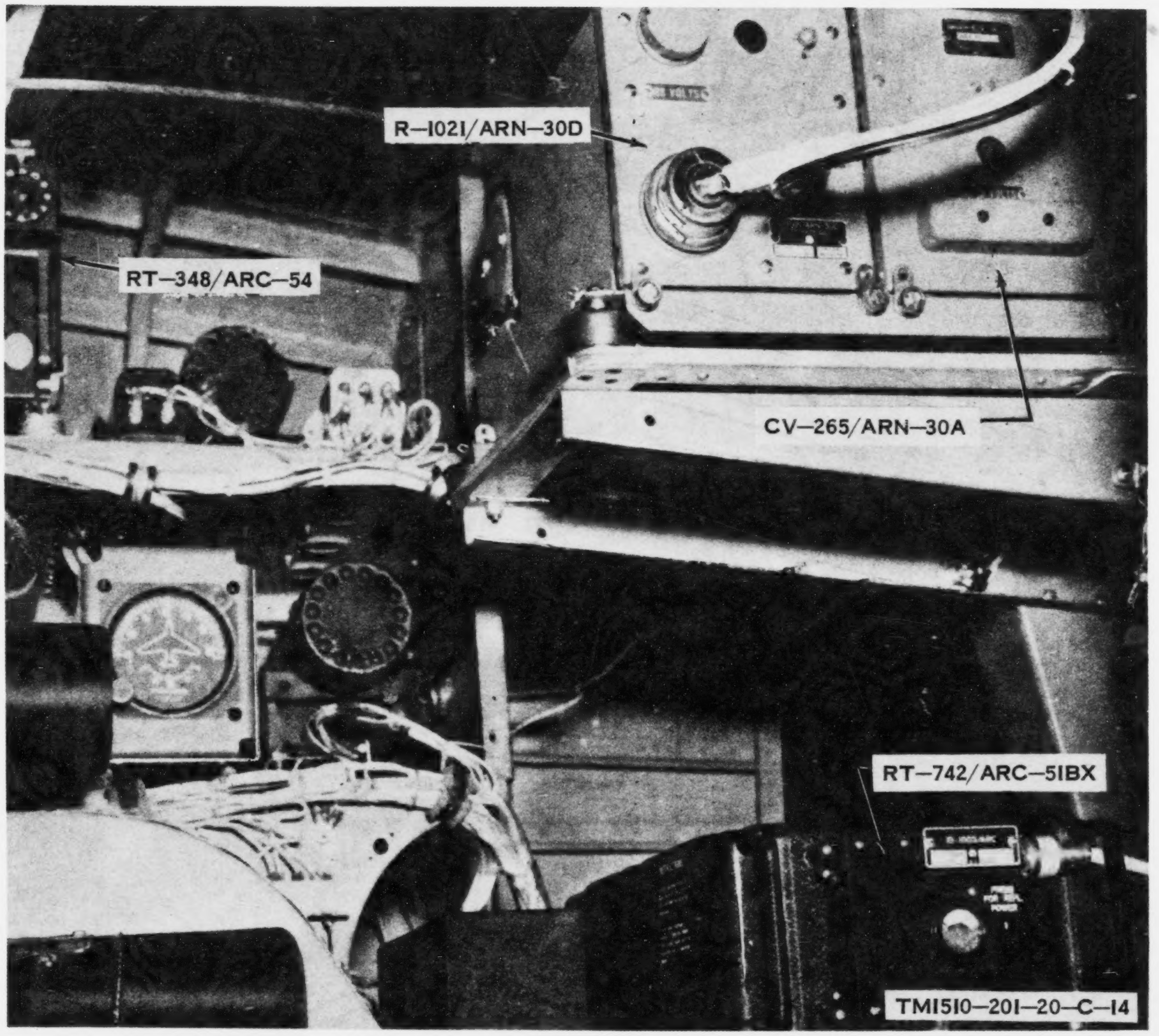

R—1021/ARN—30D
RT—348/ARC—54
CV—265/ARN—30A
RT—742/ARC—51BX
TM1510—201—20—C—14

Figure 2–8. Forward baggage compartment rack.

2–26. Removal and Replacement of Control, Radio Set C–6287/ARC–51BX

(fig. 2–6)

a. Removal.

(1) Unlock the eight Dzus fasteners that secure the unit to the instrument panel.

(2) Pull the unit forward to reach the electrical connector.

(3) Disconnect the electrical connector.

(4) Remove the unit from the instrument panel.

b. Replacement.

(1) Position the unit in front of the instrument panel opening.

(2) Connect the electrical connectors at the rear of the unit.

(3) Slide the unit into the opening on the instrument panel.

(4) Lock the eight Dzus fasteners to secure the unit to the instrument panel.

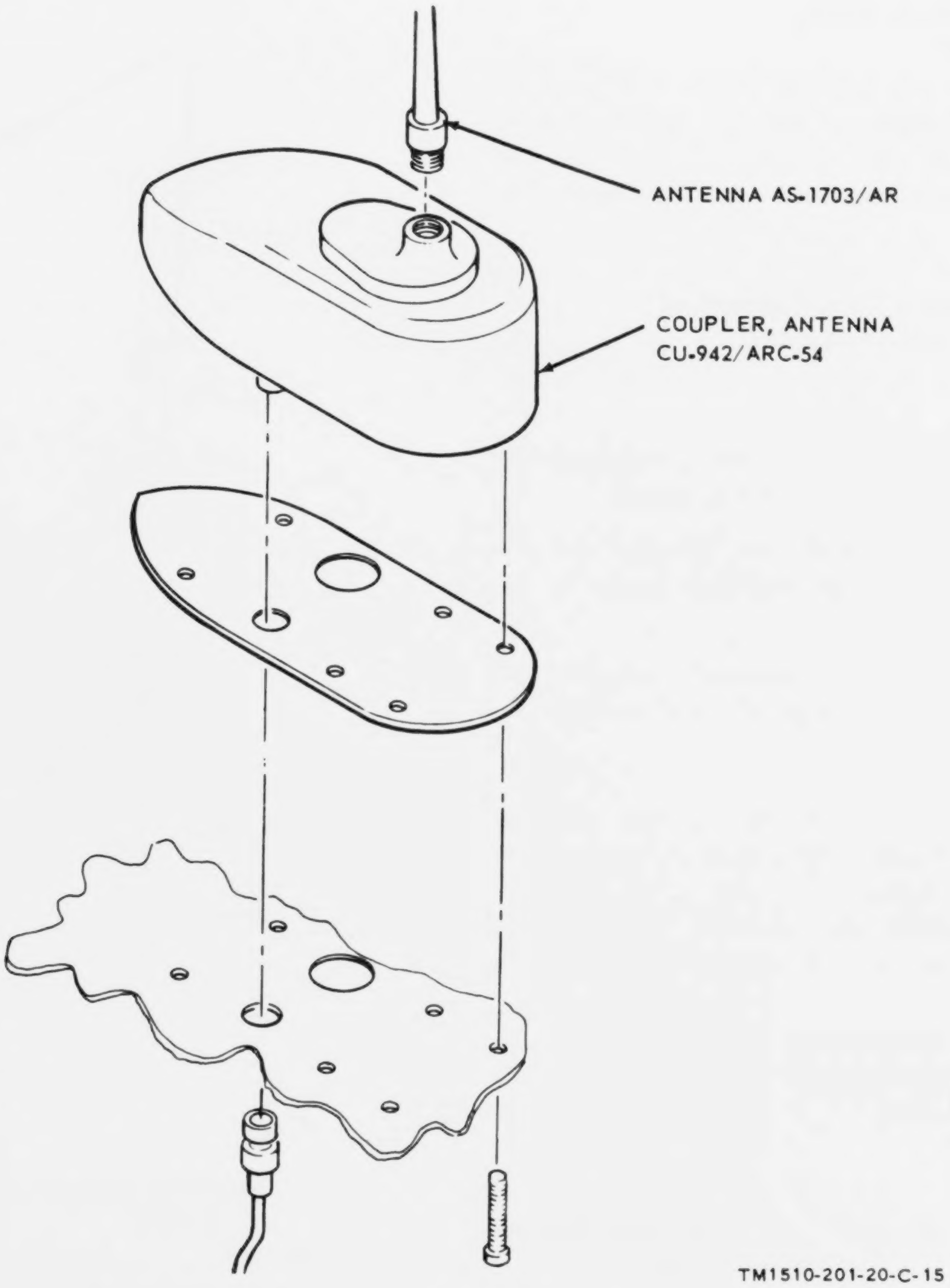


Figure 2-9. Antenna AS-1703/AR and Coupler, Antenna CU-942/ARC-54.

2-27. Removal and Replacement of Receiver-Transmitter, Radio RT-857/ARC-134

a. Removal.

(1) Loosen the knurled retainer nuts on the front of the mount until the holddown clamps can be slipped off the lugs on the front of the very-high frequency (vhf) receiver-transmitter.

(2) Pull the vhf receiver-transmitter straight out of its mount.

b. Replacement.

(1) Place the vhf receiver-transmitter on the mount and push it toward the rear until the connector at the rear of the vhf receiver-transmitter is mated with the receptacle in the mount.

(2) Place the holddown clamps of the mount over the lugs on front of the vhf receiver-transmitter. Tighten the knurled retainer nuts until the vhf 1 receiver-transmitter is secure.

2-28. Removal and Replacement of Control Radio Set, C-7197/ARC-134

a. Removal.

(1) Loosen the four quick-release fasteners on the front of the vhf control panel.

(2) Pull the vhf control panel from its mount; be careful that the cables connected at back of the vhf control panel are not unduly strained.

(3) Disconnect the pendent cable connector from the vhf control panel.

b. Replacement.

(1) Connect the pendent cable connector to the receptacle of back of the vhf control panel.

(2) Slide the vhf control panel into the mount and tighten the four quick-release fasteners.

2-29. Removal and Replacement of Antenna AT-1108/ARC
(fig. 2-10)

a. Removal.

(1) From inside the aircraft, disconnect the coaxial cable from the uhf/vhf antenna.

***Caution:* Be careful that the uhf/vhf antenna does not fall when the last screw is removed.**

(2) From outside the aircraft, remove the screws which secure the uhf/vhf antenna to the base.

b. Replacement.

(1) Position the uhf/vhf antenna on the outside of the aircraft and secure it to the base with the existing screws.

(2) From inside the aircraft, connect the coaxial cable to the uhf/vhf antenna.

2-30. Removal and Replacement of Control, Intercommunication Set C-1611D/AIC
(fig. 2-6)

a. Removal.

(1) Unlock the four Dzus fasteners that secure the unit to the instrument panel.

(2) Pull the unit forward to reach the electrical connector and disconnect the connector.

(3) Remove the unit from the instrument panel.

b. Replacement.

(1) Position the unit in front of the instrument panel opening.

(2) Connect the electrical connector to the rear of the unit.

(3) Slide the unit into the instrument panel opening and lock the four Dzus fasteners.

2-31. Removal and Replacement of Receiver-Transmitter Radio RT-384/ARN-52(V)

***Warning:* High voltage (2,100 volts) exists in this equipment. Before performing the removal procedures, set the TACAN control panel function selector switch to OFF.**

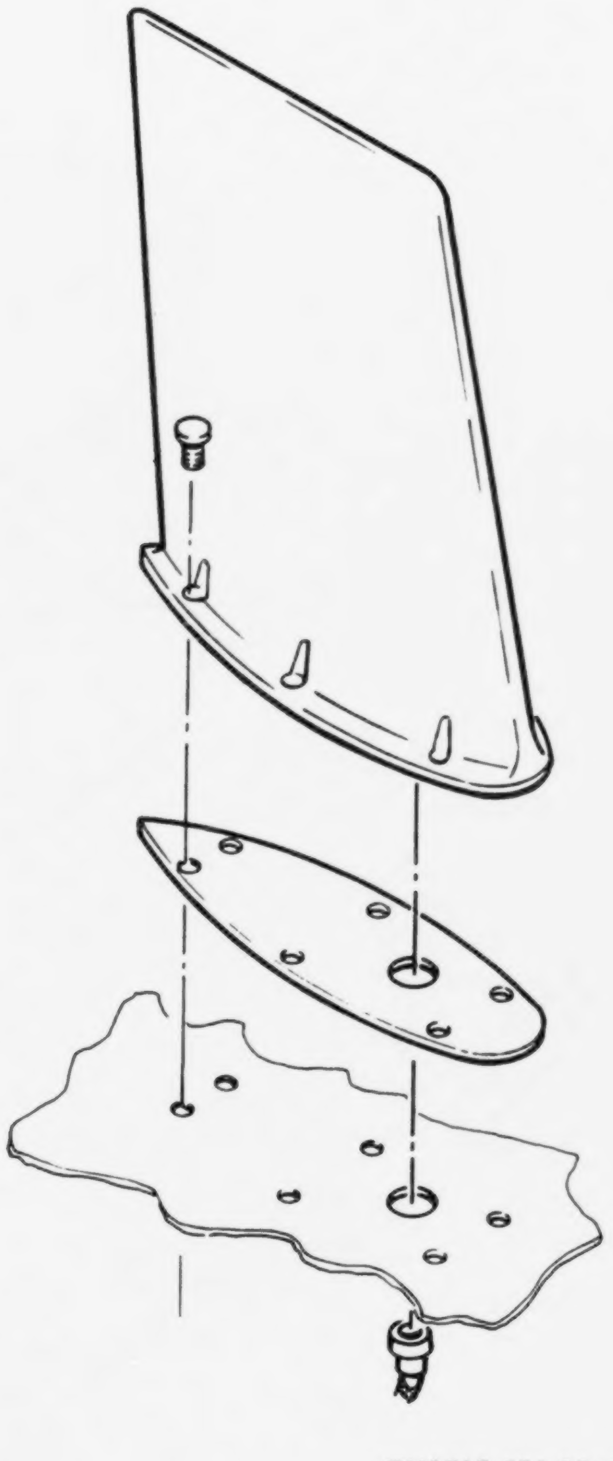


Figure 2-10. Antenna AT-1108/ARC.

a. Removal.

(1) Disconnect antenna plug P1029 from antenna jack J1029 on the front panel of the TACAN receiver-transmitter.

(2) Disconnect the suppression pulse cables of the front panel of the TACAN receiver-transmitter.

(3) Loosen the two mounting wingnuts at the lower corners of the front panel.

(4) Pull the TACAN receiver-transmitter from the mounting.

b. Replacement.

(1) Push the TACAN receiver-transmitter onto the mounting; be sure that the slide pins on the mounting align with the holes at the rear of the TACAN receiver-transmitter.

(2) Tighten the two mounting wingnuts at the lower corners of the front panel.

(3) Connect the suppression pulse cables to the front panel of the TACAN receiver-transmitter.

(4) Connect antenna plug P1029 to antenna jack J1029 on the front panel of the TACAN receiver-transmitter.

2–32. Removal and Replacement of Control, Radio Set C–2010/ARN–52(V)

a. Removal.

(1) Unlock the four fasteners at the corners of the TACAN control panel.

(2) Pull the TACAN control panel forward, out of the mounting panel, until the cable at the rear can be reached.

(3) Disconnect the electrical connection at the rear of the TACAN control panel and remove the unit.

b. Replacement.

(1) Position the TACAN control panel in front of the opening in its mounting panel and connect the electrical connection at the rear of the TACAN control panel.

(2) Slide the TACAN control panel into position and lock the four fasteners at the corners of the TACAN control panel.

2–33. Removal and Replacement of Indicator Bearing-Distance-Heading ID–663C/U or ID-250( )/ARN

a. Removal.

(1) Remove the four screws that attach the ID–633C/U to the mount.

(2) Slide the ID–633C/U forward and disconnect the electrical connector; remove the ID–663C/U.

b. Replacement.

(1) Position the ID–663C/U in front of the opening in its mounting panel and connect the electrical connector.

(2) Slide the ID–663C/U into the mount and secure it with the screws.

2–34. Removal and Replacement of Indicator, Course ID–387/ARN

a. Removal.

(1) Remove the screws that attach the course indicator to the mount.

(2) Slide the course indicator forward and disconnect the electrical connector at rear of the course indicator; remove the course indicator.

b. Replacement.

(1) Position the course indicator in front of the mount and connect the electrical connector at the rear of the course indicator.

(2) Slide the course indicator into the mount and secure it with the screws.

2–35. Removal and Replacement of Shock Mounts

a. Removal.

(1) Remove the component from the shock mount. (Refer to applicable paragraph for removal of the component.)

(2) Remove the electrical receptacle (if applicable).

(3) Unscrew the attachment screws from the vibration isolators.

(4) If a separate grounding post is used for the grounding strap, detach the grounding strap from the grounding post.

(5) Lift the shock mount from the mounting structure.

b. Replacement.

(1) Place the shock mount in position on the mounting structure.

(2) Determine the position of the grounding strap, clean the surface around the attachment point to insure good electrical contact, and secure the grounding strap.

(3) Secure the vibration isolators to the mounting structure.

(4) Attach the electrical receptacle (if applicable).

2–36. Parts Replacement

a. Replacing Panel Lamps.

(1) Unscrew the lampholder from the socket in the panel.

(2) Extract the lamp from the lampholder by pulling the lamp straight outward.

(3) Insert a new lamp into the lampholder by pressing on the contact end.

(4) Place the lampholder into the socket and tighten it securely by screwing it in a clockwise direction.

b. Replacing Cooler Air, Electronic Equipment HD–615/ARC–51, Filter and Fuse F1.

(1) Remove the uhf receiver-transmitter from the mounting (para 2–25*a*).

(2) Loosen the two thumbscrews that attach the air filter to the holder and lift the air filter from the holder.

(3) Remove fuse F1 from the air filter holder.

(4) Replace fuse F1 in the air filter holder.

(5) Place the air filter holder and tighten the thumbscrews.

(6) Replace the uhf receiver-transmitter on the mounting (para 2-25*b*).

2-37. Safety Wiring

The threaded coupling connectors coupling nut should be safety-wired, or otherwise mechanically locked, to prevent loosening under vibration in areas of severe vibration (excluding those on shock-mounted equipment), and in areas which cannot be reached for periodic maintenance inspection of the aircraft. Install the safety wire in such a way that loosening of the connectors will cause the safety wire to tighten.

2-38. Wiring Repair

a. General. When removal and replacement of major components have not corrected a trouble within a facility of the electronic equipment configuration, troubles in the electronic equipment configuration wiring may be the cause. Refer to electronic configuration facility schematic diagrams (fig. 4-1 through 4-40) for interunit wiring details. For general instructions in repairing the aircraft electronic configuration, refer to TM 55-4058.

b. Wire Numbers. The wires of the electronic equipment configuration are identified by wire numbers; for example, RC130A20N. The first two symbols are code letters (RC in the above example) which identify the function in accordance with the chart below. The second symbol (130) is the wire number; it differentiates between wires in a particular facility. The third symbol (A) identifies the wire segment; the wire run between terminals or connections. The next symbol (20) indicates the wire size. The last symbol N, commonly called the ground letter, identifies a cable which completes a circuit to ground.

Code letters	Function
DF	Direction-finding
RA	Radio instrument landing
RC	Radio command
RF	Vhf liaison
RL	Radio liaison
RM	Marker beacon
RN	Navigation
RU	Uhf command
RV	Vhf command
RZ	Interphone
SN	Radar navigation
SX	Radar recognition (IFF)
TN	Special electronic navigation
U	Miscellaneous electronic

CHAPTER 3

BLOCK DIAGRAM ANALYSIS

3-1. Configuration Systems and Facilities

The electronic equipment configurations A, B, and C in the U-8D, U-8F, and U-8G, aircraft provide the pilot and copilot with functional communication and navigation systems. Each system (shown in broken lines, fig. 3-1) contains one or more facilities, and each facility is represented as a solid-line block within its specified system.

a. Communications.

(1) *High frequency (HF) communication.*

(*a*) *Radio Set AN/ARC-102 (ASAC).* The hf communication facility (Radio Set AN/ARC-102) provides two-way communication in the frequency band of 2 to 30 megacycles (mc). Any one of the 28,000 present channels can be set on Control, Radio Set C-3940/ARC-94 at the instrument panel. Five available modes of operation are upper sideband (usb), lower sideband (lsb), amplitude modulation (am.), data and continuous wave (cw). The HF antenna is a wire antenna located between the leading edge of the vertical stabilizer and the trailing edge of each wingtip. An HF antenna coupler automatically tunes the HF antenna for the frequency in use.

(*b*) *Radio Set AN/ARC-59 (STD).* The HF command set provides the operator with long-range voice or CW two-way communication or any one of the 20 crystal controlled frequencies in approximately 2500 miles.

(2) *FM communication.*

(*a*) *Radio Set AN/ARC-54 (ASAC).* The AN/ARC-54, where installed (configurations A and B only), provides two-way communication on selective frequencies, spaced at 50-kilocycle (KC) intervals, in the frequency band of 30 through 69.95 mc. Control and frequency selection of the AN/ARC-54 is provided through Radio Set Control C-3855/ARC-54. Voice communications are transmitted from and received by the FM antenna located on the top centerline of the fuselage.

(*b*) *Radio Set AN/ARC-131 (ASAC).* The AN/ARC-131 is completely interchangeable with the AN/ARC-54 on configurations A and B aircraft, using the same mounting provisions and antenna facility as the AN/ARC-54. Any one of the 920 channels in the frequency band of 30 through 75.95 mc can be set on Radio Set Control C-7088/ARC-131.

(*c*) *Radio Set AN/ARC-44 (STD).* The FM liaison set provides two-way voice communication on the tactical military FM channels. The FM liaison set permits communication with units in the field within a frequency range of 24.0 to 51.9 megahertz. The range is limited to line-of-sight up to distances of approximately 50 miles. Interphone is also provided by the FM liaison set.

(3) *Ultra high frequency (uhf) command communications.*

(*a*) *Radio Set AN/ARC-51BX (ASAC).* The uhf command facility provides two-way communication on 3,500 crystal-controlled channels in the frequency band of 225 through 339.95 mc. The uhf command radio is capable of transmission or reception on any one of 3,500 selectable frequency channels, or on any one of 20 present channels within the specified frequency range. A predetermined frequency (243.0 mc), referred to as the guard channel, can be monitored continuously in addition to the uhf command radio being tuned to the tactical frequency. Control and frequency selection of the uhf command facility is provided through Control, Radio Set C-6287/ARC-51BX. Voice communications are transmitted and received by the uhf/vhf antenna located on the top centerline of the fuselage.

(*b*) *Radio Set AN/ARC-55(*) (STD).* The UHF command set, composed of two receivers and one transmitter, provide the operator with two-way voice communication within the frequency range of 225.0 to 399.9 megahertz and the emergency channel 243.0 megahertz. The range of the UHF command set is limited to line-of-sight up to distances of approximately 50 miles.

(4) *Vhf communication.*

(*a*) *Radio Set AN/ARC-73 (STD).* The

VHF command set provides the operator with two-way voice communication within a frequency range of 116.00 to 149.95 megahertz. The transmitter of the VHF command set may be operated within a frequency range of 116.00 to 149.95 megahertz. The receiver may be tuned within a frequency range of 116.00 to 151.95 megahertz. The range of the VHF command set is limited to line-of-sight up to distances of approximately 50 miles.

(*b*) *Radio Set AN/ARC-131 (ASAC).* The vhf communication facility (Radio Set AN/ARC-134) provides two-way communication in the very high frequency (vhf) range from 116.000 through 149.975 megacycles. Frequency selection is initiated manually by adjusting two controls, on Control, Radio Set C-7197/ARC-134 until the desired frequency is displayed on the frequency window. The vhf receiver-transmitter is capable of being tuned to transmit and receive on 1,360 channels which are spaced 25 kc apart; however, since vhf communication systems now in service employ 50-kc spacing, only the 5-kc spaced channel frequencies ending in 00 and 50 kc should be selected at the vhf control panel to prevent adjacent channel interference.

(5) *Identification friend or foe (IFF).* The IFF transponder facility consists of the IFF transponder set (Transponder Set AN/APX-44 and provisions for Transponder Set AN/APX-72). The IFF transponder facility is primarily intended to identify the aircraft as friendly to ground radar interrogating stations. The IFF transponder set receives, decodes, and responds to characteristic interrogation by IFF ground stations supplemented by the selective identification feature (sif), and to civil ground radar systems. The receiver section operates on a single preset frequency within the range of 1,010 to 1,030 mc, and the transmitter section operates on a single preset frequency within the range of 1,090 to 1,110 mc. The equipment can also be used to transmit specially coded emergency signals, or position identifying signals, although the IFF transponder set is not being interrogated by a ground station.

(6) *Interphone.* The interphone facility provides communication between the aircraft crew, outside communications by aircraft radio equipment, and monitoring of received radio signals.

b. Navigation.

(1) *TACAN navigation.* The TACAN navigation facility (TACAN Navigation Set AN/ARN-52(V)) provides continuous information of the bearing (azimuth angle) from the aircraft to a selected ground station measured clockwise from magnetic North when used in the receive mode of operation. In the receive-transmit mode of operation, the TACAN navigation set provides continuous information of the line-of-sight distance from the aircraft to a selected ground station in addition to bearing information. In the air-to-air mode of operation, the TACAN navigation set provides continuous information of the line-of-sight distance between two cooperating aircraft that are each equipped with a TACAN navigation set. The maximum operating range of the equipment in any mode of operation is approximately 300 miles.

(2) *Automatic direction finding (adf).* The adf radio set (AN/ARN-59(V)) provides a visual indication of the direction from which a signal is received. It also provides amplitude-modulated aural reception for homing and position fixing in the 190- to 1,750-kilocycle frequency range.

(3) *Omni navigation.* The vhf navigation facility (Receiving Set, Radio AN/ARN-30E) provides visual omnirange (VOR), visual aural range (VAR), runway localizer facilities (LOC), and vhf reception in a frequency range of 108.00 to 126.90 megacycles. Signals are received by the omni-antenna located on the top centerline of the fuselage.

(4) *Gyro magnetic compass.* The gyro magnetic compass facility (AN/ASN-13) provides magnetic heading indication for navigational and flightpath direction control purposes.

3-2. HF Communication Facility, Configuration A, B, and C, Block Diagram

(fig. 3-2)

a. Communications.

(1) *Reception.* Incoming RF signals are received by the HF antenna and applied through the HF antenna coupler to the HF receiver-transmitter. By frequency selection controls on the HF control panel, the HF receiver-transmitter and the HF antenna are tuned to the incoming RF signal frequency. The resulting receiver audio is routed through the interphone junction box to the pilot's and copilot's interphone controls. The receiver RF sensitivity is controlled by the RF SENS control on the hf control panel. When the interphone control RECEIVERS 4 switch is set to the on (up) position, the receiver audio is amplified and applied to the headset.

(2) *Transmission.* The HF receiver-transmitter is tuned to the desired frequency by the frequency selection controls on the HF control panel. Transmit audio from the pilot's and copilot's microphones is applied to the interphone control. When the interphone control selector switch is set to position 4, and the microphone switch is pressed, the transmit audio is amplified and applied through the interphone junction box to the HF receiver-transmitter. The resulting modulated RF signal is routed through the HF antenna coupler to the HF antenna for transmission.

b. Power Distribution.

(1) Primary power to operate the HF command set is supplied from the aircraft 28-volt direct current (dc) bus and applied through the AN/ARC-102, circuit breaker located on the subpanel to the HF receiver-transmitter, the HF antenna, and the alternating current (ac) power supply in the HF inverter. Power is applied to the HF receiver-transmitter, the HF antenna coupler, and the ac power supply when the control panel mode switch is moved from the off position.

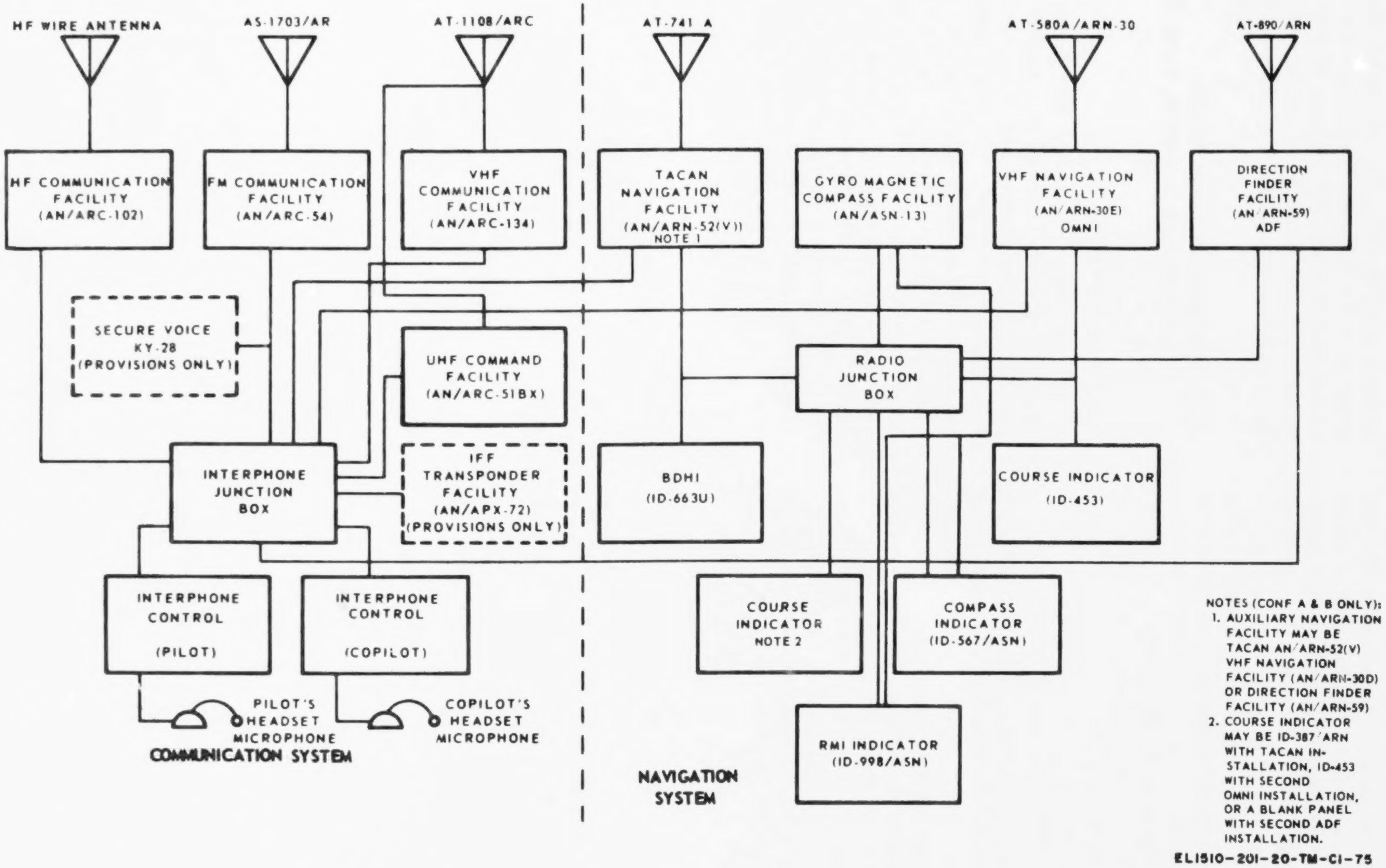
(2) The ac power supply located in the HF inverter supplies 115 volt, 400 cycles per second (cps) ac to the HF control panel, the HF receiver-transmitter, and the HF antenna coupler. The ac power supply is turned on when the control panel mode switch is moved from the off position.

3-3. FM Communication Facility, Configurations A and B, Block Diagram

(fig. 3-3)

a. Communications.

(1) *Reception.* Incoming RF signals are received by the FM antenna and applied through the FM antenna coupler and RF switch to the FM receiver-transmitter. The FM receiver-transmitter and FM antenna coupler are tuned to the incoming RF signal frequency by frequency selection controls on the FM control panel. The resulting receiver audio is applied to the FM control panel where the audio level is adjusted by the VOL control. From the FM control panel, the receiver audio is fed through the interphone junction box to the pilot's and copilot's inter-


HF WIRE ANTENNA
AS-1703/AR
AT-1108/ARC
AT-741 A
AT-580A/ARN-30
AT-890/ARN
HF COMMUNICATION FACILITY (AN/ARC-102)
FM COMMUNICATION FACILITY (AN/ARC-54)
VHF COMMUNICATION FACILITY (AN/ARC-134)
TACAN NAVIGATION FACILITY (AN/ARN-52(V)) NOTE 1
GYRO MAGNETIC COMPASS FACILITY (AN/ASN-13)
VHF NAVIGATION FACILITY (AN/ARN-30E) OMNI
DIRECTION FINDER FACILITY (AN/ARN-59) ADF
SECURE VOICE KY-28 (PROVISIONS ONLY)
UHF COMMAND FACILITY (AN/ARC-51BX)
RADIO JUNCTION BOX
INTERPHONE JUNCTION BOX
IFF TRANSPONDER FACILITY (AN/APX-72) (PROVISIONS ONLY)
BDHI (ID-663U)
COURSE INDICATOR (ID-453)
INTERPHONE CONTROL (PILOT)
INTERPHONE CONTROL (COPILOT)
COURSE INDICATOR NOTE 2
COMPASS INDICATOR (ID-567/ASN)
RMI INDICATOR (ID-998/ASN)
PILOT'S HEADSET MICROPHONE
COPILOT'S HEADSET MICROPHONE
COMMUNICATION SYSTEM
NAVIGATION SYSTEM

NOTES (CONF A & B ONLY):
1. AUXILIARY NAVIGATION FACILITY MAY BE TACAN AN/ARN-52(V) VHF NAVIGATION FACILITY (AN/ARN-30D) OR DIRECTION FINDER FACILITY (AN/ARN-59)
2. COURSE INDICATOR MAY BE ID-387/ARN WITH TACAN INSTALLATION, ID-453 WITH SECOND OMNI INSTALLATION, OR A BLANK PANEL WITH SECOND ADF INSTALLATION.

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Figure 3-1. Configurations A, B, and C, block diagram (ASAC).

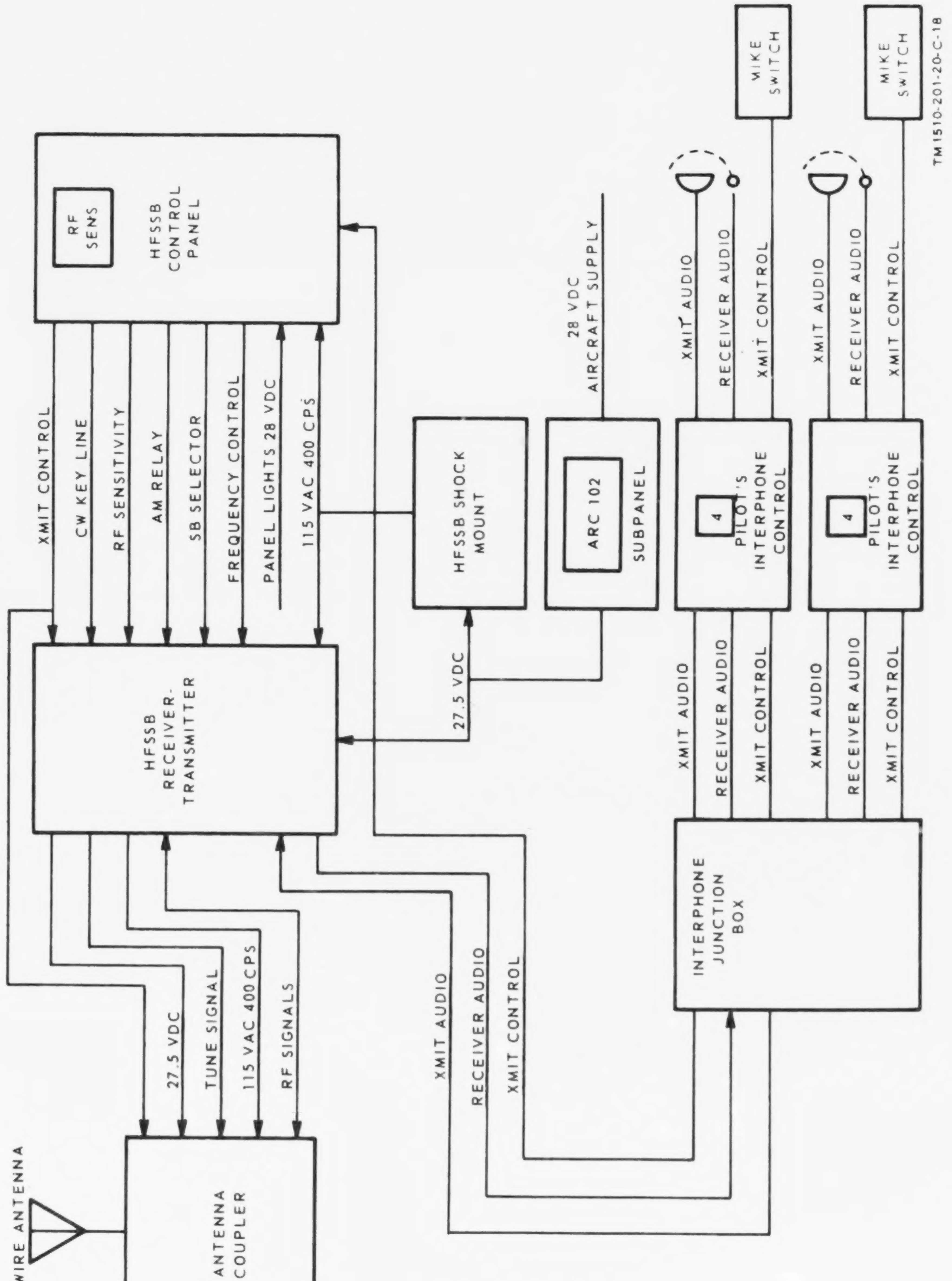
HF WIRE ANTENNA
ANTENNA COUPLER
27.5 VDC
TUNE SIGNAL
115 VAC 400 CPS
RF SIGNALS
HFSSB RECEIVER-TRANSMITTER
XMIT CONTROL
CW KEY LINE
RF SENSITIVITY
AM RELAY
SB SELECTOR
FREQUENCY CONTROL
PANEL LIGHTS 28 VDC
115 VAC 400 CPS
HFSSB CONTROL PANEL
RF SENS
HFSSB SHOCK MOUNT
27.5 VDC
ARC 102
SUBPANEL
28 VDC AIRCRAFT SUPPLY
XMIT AUDIO
RECEIVER AUDIO
XMIT CONTROL
INTERPHONE JUNCTION BOX
4
PILOT'S INTERPHONE CONTROL
MIKE SWITCH
TM1510-201-20-C-18

Figure 3-2. HF-communication facility, configuration A, B, and C, block diagram.

phone controls. When the interphone control RECEIVERS 2 switch is set to the on (up) position, the receiver audio is amplified and applied to the headset.

(2) *Transmission.* The FM receiver-transmitter is tuned to the desired transmit frequency by the frequency selection controls on the FM control panel. Transmit audio, from the pilot's and copilot's microphones, is applied to the interphone control. When the transmit-interphone selector switch is set to position 1, and the microphone switch is pressed, the transmit audio is amplified and applied through the interphone junction box and FM control panel to the FM receiver-transmitter. The resulting modulated RF signal is routed through the FM antenna coupler to the FM antenna for transmission.

b. Power Distribution. Primary power to operate the FM radio set is supplied from the aircraft 28-volt dc bus and applied through the AN/ARC-54 circuit breaker located on the subpanel to the FM control panel. Power is applied to the FM receiver-transmitter and FM antenna coupler when the FM control panel mode control is moved from the off position.

3-4. Uhf Command Facility, Configurations A and B, Block Diagram

(fig. 3-4)

a. Communications.

(1) *Reception.* Incoming RF signals are received by the uhf/vhf antenna and applied through the (vswr) indicator to the uhf receiver-transmitter. The uhf receiver-transmitter is tuned to the incoming RF signal frequency by frequency selection controls on the uhf control panel. The resulting receiver audio is applied to the uhf control panel where the audio level is adjusted by the VOL control. From the uhf control panel, the receiver audio is fed through the interphone junction box to the pilot's and copilot's interphone controls. When the interphone control RECEIVERS 2 switch is set to the ON (up) position, the receiver audio is applied to the headset.

(2) *Transmission.* The uhf receiver-transmitter is tuned to the desired transmit frequency by the frequency selection controls on the uhf control panel. Transmit audio, from the pilot's and copilot's microphones, is applied to the interphone control. When the interphone control selector switch is set to position 2, and the microphone switch is pressed, the transmit audio is amplified and applied through the interphone junction box to the uhf receiver-transmitter. The resulting modulated RF signals are routed through the vswr indicator to the uhf/vhf antenna for transmission.

b. Power Distribution. Primary power to operate the uhf command radio is supplied from the aircraft 28-volt dc bus and applied through the ARC 51BX circuit breaker located on the subpanel to the uhf receiver-transmitter. Power is applied to the uhf receiver-transmitter when the uhf control panel mode control is moved from the off position.

3-5. IFF Transponder Facility, Configurations A, B, and C, Block Diagram

(fig. 3-5)

a. Interrogation Signal. Interrogation signals are received by the IFF antenna and applied through a duplexer to the IFF receiver-transmitter. The receiver section is preset to a frequency within the range of 1,010 to 1,030 mc. The receiver sensitivity is controlled by the NORM and LOW position of the master control on the IFF control panel. The audio from the receiver is applied to the decoder.

b. Reply Signal. Whenever a pulse occurs, the transmitter section generates an RF carrier for the duration of the pulse. The standby (STBY) position of the function switch on the IFF control panel prevents the encoder from triggering the modulator-transmitter when it is not desirable to reply to interrogation for tactical reasons. The RF reply pulses from the transmitter are applied to the duplexer. The duplexer prevents these pulses from entering the receiver and passes them to the IFF antenna.

c. Audio Signal. Whenever the IFF transponder set is interrogated, an audio signal is created and routed through the iff control panel and the interphone controls to the pilot's and copilot's headsets.

d. Power Distribution. Primary power for the IFF transponder set operation is supplied from the aircraft 28-volt dc bus and applied through the IFF-RT 10-ampere circuit breaker. Control power is supplied from the aircraft 28-volt dc bus and applied through the IFF CONT 5-ampere circuit breakers located on the subpanel of configurations A and C and on the instrument panel of configuration B.

3-6. Interphone Facility, Configurations A, B, and C, Block Diagram

(fig. 3-6)

a. Power Distribution. Primary power for interphone facility operation is supplied from the aircraft 28-volt dc bus applied through CO-

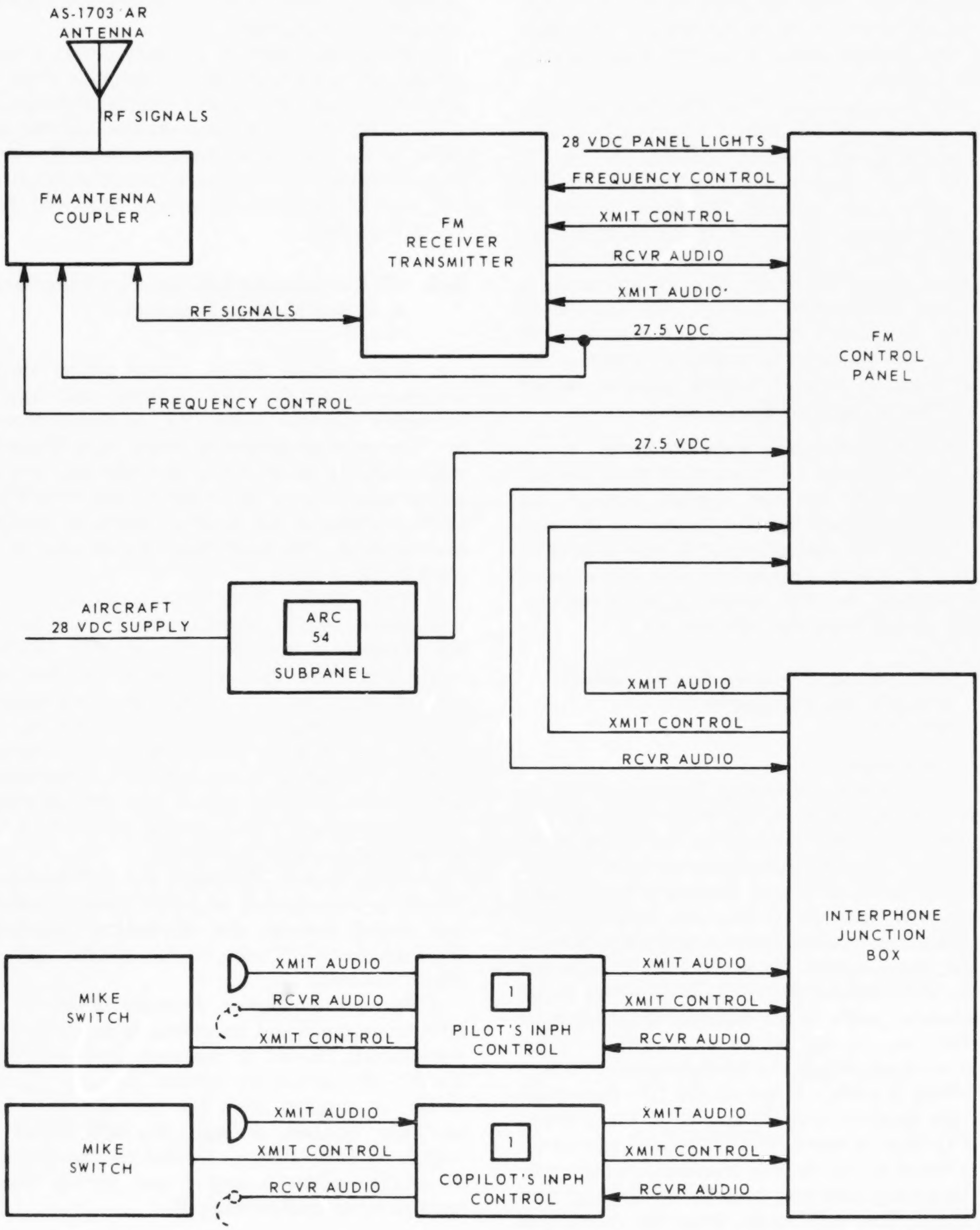
AS-1703 AR ANTENNA
RF SIGNALS
FM ANTENNA COUPLER
FM RECEIVER TRANSMITTER
28 VDC PANEL LIGHTS
FREQUENCY CONTROL
XMIT CONTROL
RCVR AUDIO
XMIT AUDIO
27.5 VDC
RF SIGNALS
FM CONTROL PANEL
FREQUENCY CONTROL
27.5 VDC
AIRCRAFT 28 VDC SUPPLY
ARC 54
SUBPANEL
XMIT AUDIO
XMIT CONTROL
RCVR AUDIO
INTERPHONE JUNCTION BOX
MIKE SWITCH
XMIT AUDIO
RCVR AUDIO
XMIT CONTROL
1
PILOT'S INPH CONTROL
XMIT AUDIO
XMIT CONTROL
RCVR AUDIO
MIKE SWITCH
XMIT AUDIO
XMIT CONTROL
RCVR AUDIO
1
COPILOT'S INPH CONTROL
XMIT AUDIO
XMIT CONTROL
RCVR AUDIO

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Figure 3–3. FM communication facility, configurations A, B, and C, block diagram.

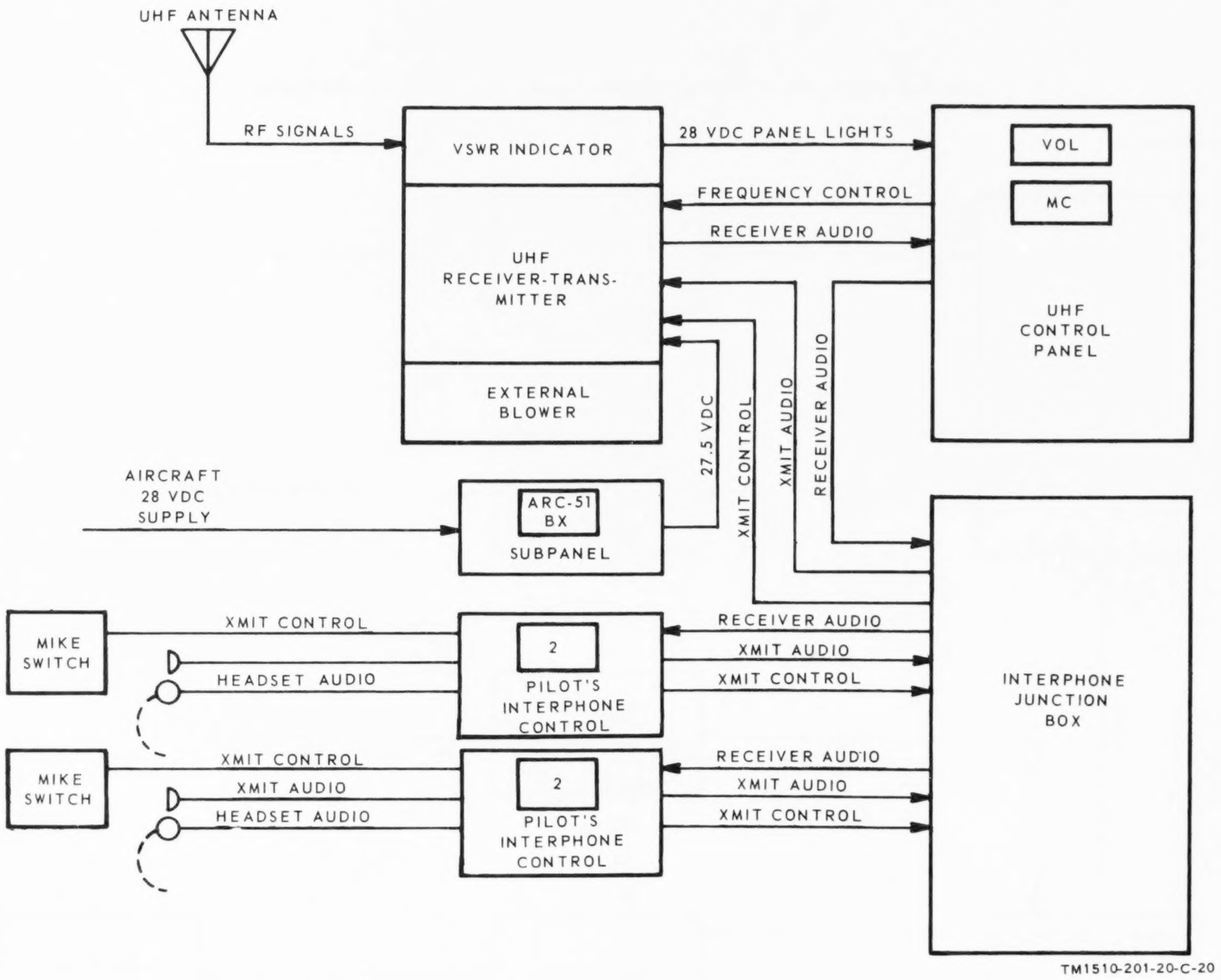
UHF ANTENNA
RF SIGNALS
VSWR INDICATOR
UHF RECEIVER-TRANS-MITTER
EXTERNAL BLOWER
28 VDC PANEL LIGHTS
FREQUENCY CONTROL
RECEIVER AUDIO
VOL
MC
UHF CONTROL PANEL
27.5 VDC
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
AIRCRAFT 28 VDC SUPPLY
ARC-51 BX
SUBPANEL
MIKE SWITCH
XMIT CONTROL
HEADSET AUDIO
2
PILOT'S INTERPHONE CONTROL
RECEIVER AUDIO
XMIT AUDIO
XMIT CONTROL
INTERPHONE JUNCTION BOX
MIKE SWITCH
XMIT CONTROL
XMIT AUDIO
HEADSET AUDIO
2
PILOT'S INTERPHONE CONTROL
RECEIVER AUDIO
XMIT AUDIO
XMIT CONTROL
TM1510-201-20-C-20

Figure 3-4. Uhf command facility, configurations A, B, and C, block diagram.

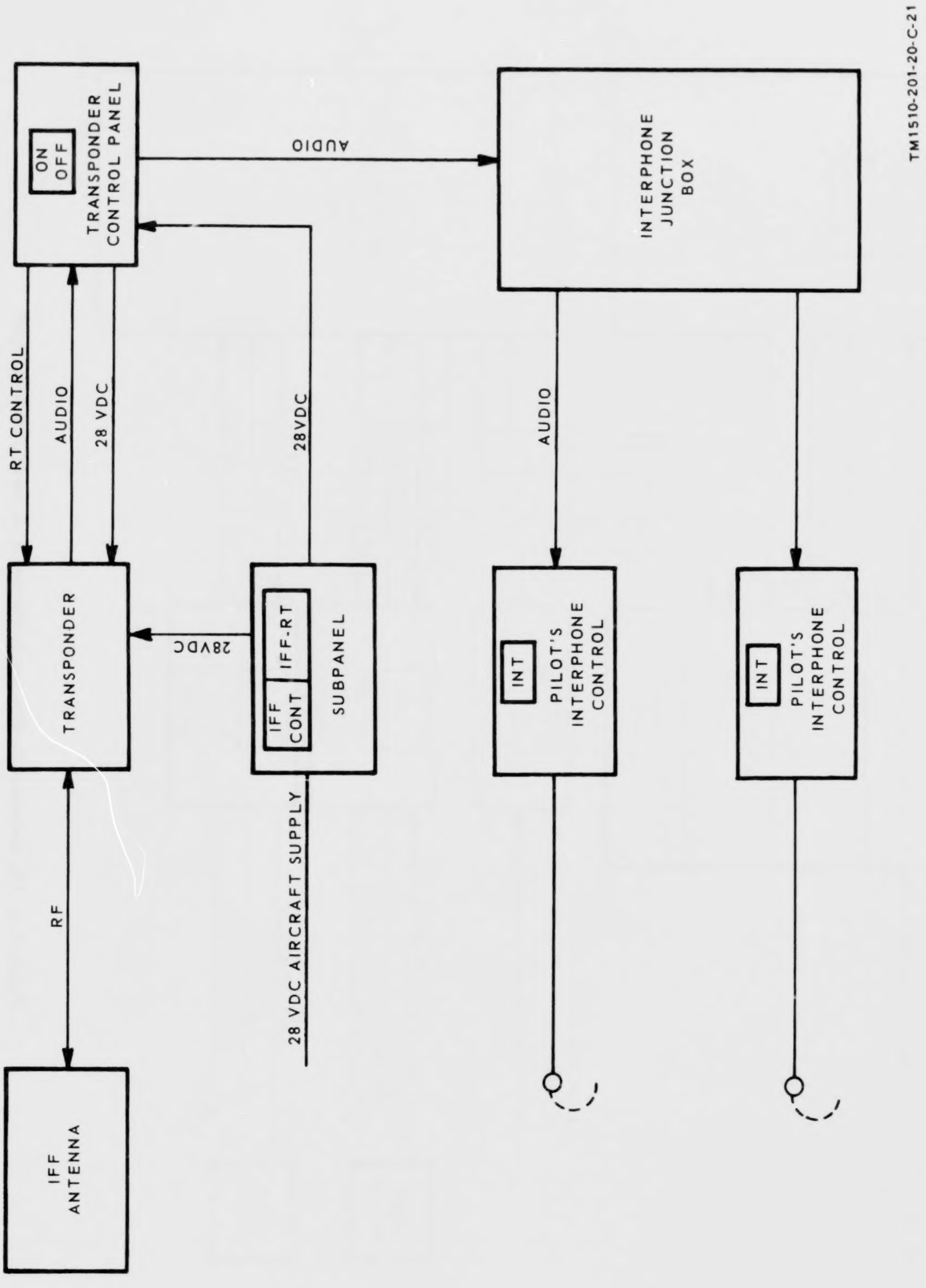
TRANSPONDER CONTROL PANEL
ON
OFF
AUDIO
INTERPHONE JUNCTION BOX
RT CONTROL
AUDIO
28 VDC
28VDC
AUDIO
TRANSPONDER
28VDC
IFF CONT
IFF-RT
SUBPANEL
INT
PILOT'S INTERPHONE CONTROL
INT
PILOT'S INTERPHONE CONTROL
RF
28 VDC AIRCRAFT SUPPLY
IFF ANTENNA
TM1510-201-20-C-21

Figure 3-5. IFF transponder facility, configurations A, B, and C, block diagram.

PILOT-PILOT INPH circuit breakers located on the subpanel in configurations A and C, and on the instrument panel (copilot's position) in configuration B.

b. Standard Audio Operation. Intercommunication between the pilot and the copilot is achieved by placing the selector switch, on the appropriate interphone control, to INT. The volume of the incoming audio is adjusted by the interphone VOL control. An audio input at the headset microphone is applied to the interphone control, where it is amplified and routed through the interphone junction box to the other interphone control. Audio signals from the communication and navigation facilities are routed through the interphone junction box to the interphone controls. Selection of these facilities is made by setting the interphone control RECEIVERS 1(FM), 2 (uhf), 3 (vhf), 4 (HF), INT, or NAV switch to the up position.

3–7. Communication Facility Configuration A, B, and C, Block Diagram
(fig. 3–7)

a. Communications.

(1) *Reception.* Incoming RF signals are received by the uhf/vhf antenna and applied to the vhf receiver-transmitter. The vhf receiver-transmitter is tuned to the incoming rf signal frequency by frequency selection controls on the vhf control panel. The resulting receiver audio is applied, through the interphone junction box, to the vhf control panel where the audio level is adjusted by the VOL control. From the vhf control panel, the audio is fed through the audio amplifier in the vhf receiver-transmitter to the interphone junction box. From the interphone junction box, audio is fed to the pilot's and copilot's interphone controls when the interphone control RECEIVERS 3 switch is set to the on (up) position, the audio is applied to the headset.

(2) *Transmission.* The vhf receiver-transmitter is tuned to the desired transmit frequency by frequency controls on the vhf control panel. Transmit audio from the pilot's and copilot's microphones is applied to the interphone control. When the transmit-interphone selector switch is set to position 3, and the microphone switch is pressed, the transmit audio is amplified and applied through the interphone junction box to the vhf receiver-transmitter. The resulting RF signals are routed to the uhf/vhf antenna for transmission.

b. Power Distribution. Primary power to operate the vhf radio set is supplied from the aircraft 28-volt dc bus and applied through the VHF circuit breaker located on the subpanel to the vhf receiver-transmitter. Power is applied to the vhf receiver-transmitter circuits when the vhf control panel OFF-PWR switch is set to PWR.

3–8. TACAN Navigation Facility, Configurations A, B, and C, Block Diagram
(fig. 3–8)

a. General. Each ground station in the TACAN system is identified by transmitting an assigned identification signal in international Morse code every 37.5 seconds. TACAN navigation set AN/ARN–52(V) decodes this signal and provides an audio indication (dots and dashes) of the identity of the particular ground station. The distance measuring function is initiated when the AN/ARN–52(V) transmits interrogation pulse pair signals on one of 126 assigned frequencies to the ground station. In reply to the received pulse pair signals, the ground station transmits reply pulse pair signals on one of 63 assigned frequencies in the 962- through 1,024-megacycle and 1,151- through 1,213-megacycle bands. The AN/ARN–52(V) measures the elapsed time between the transmitted pulse pair signals and the reception of the reply pulse pair signals, and uses this time value to calculate the line-of-sight distance between the aircraft and the ground station. The ground station originates bearing data that is multiplexed with reply pulse pair signals and identity signal. The AN/ARN–52(V) uses this data to derive the azimuth angle (bearing) from the aircraft to the ground station measured clockwise with respect to magnetic North. In addition to exchanging signals with a ground station, the AN/ARN–52(V) can be used to determine the line-of-sight distance between two aircraft. The AN/ARN–52(V) in each aircraft transmits interrogation pulse pair signals. In response to a received interrogation pulse pair signal, each AN/ARN–52(V) transmits a single reply pulse signal. Each AN/ARN–52(V) measures the elapsed time between transmission of an interrogation pulse pair signal and reception of the single reply pulse signal, and uses this time value to calculate the line-of-sight distance to the corresponding aircraft. The channel selector switch on the TACAN control panel selects both the receiving and transmitting frequency when the operating channel is selected.

Note. When the AN/ARN–52(V) is operating, a suppression pulse is fed to the AN/APX–44 or the AN/APX–72 to prevent interference that can occur because of simultaneous operation. When the AN/APX–44 or the AN/APX–72 is in operation, the TACAN navi-

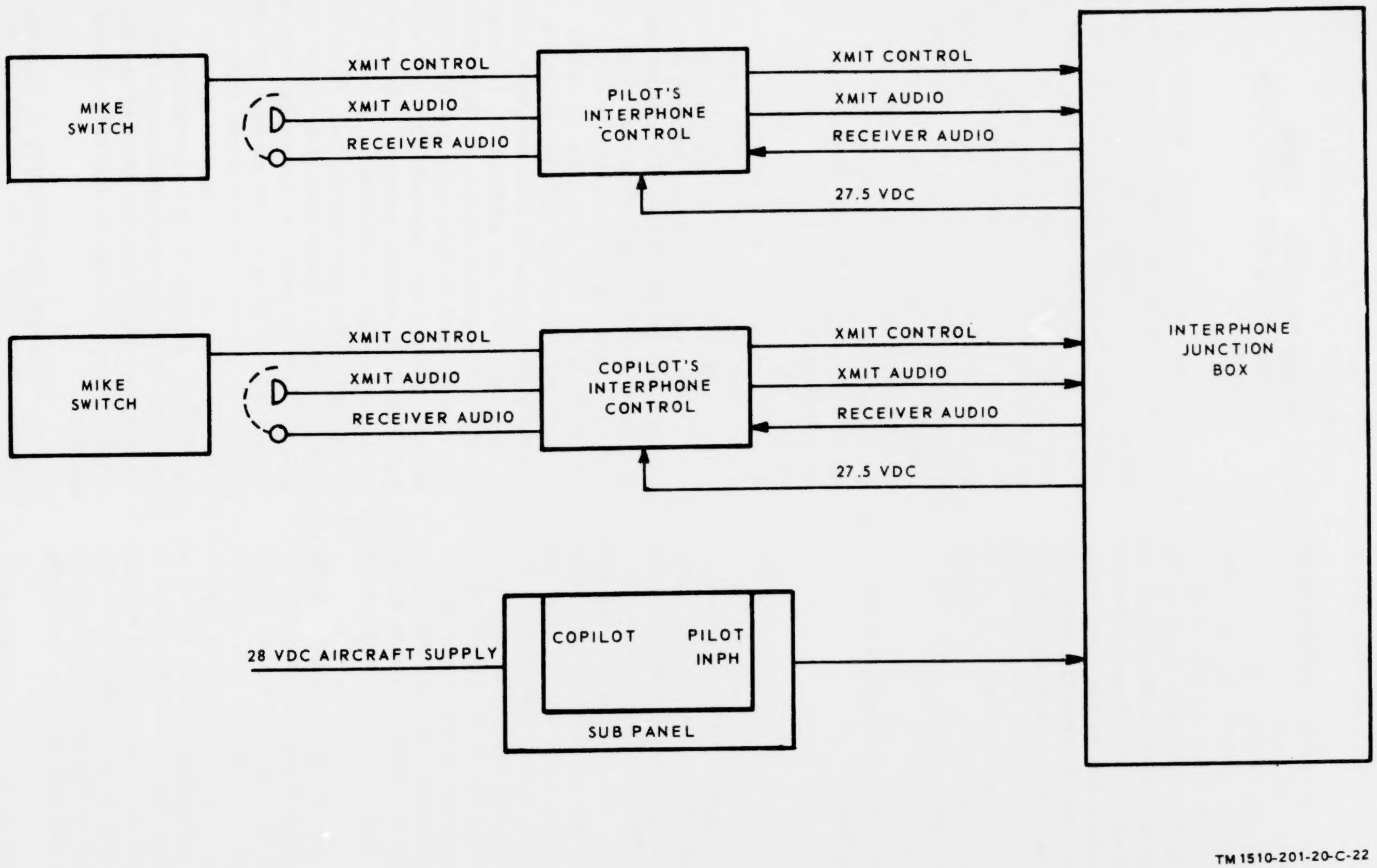
MIKE SWITCH
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
PILOT'S INTERPHONE CONTROL
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
27.5 VDC
MIKE SWITCH
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
COPILOT'S INTERPHONE CONTROL
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
27.5 VDC
INTERPHONE JUNCTION BOX
28 VDC AIRCRAFT SUPPLY
COPILOT
PILOT INPH
SUB PANEL
TM 1510-201-20-C-22

Figure 3–6. Interphone facility, configurations A, B, and C, block diagram.

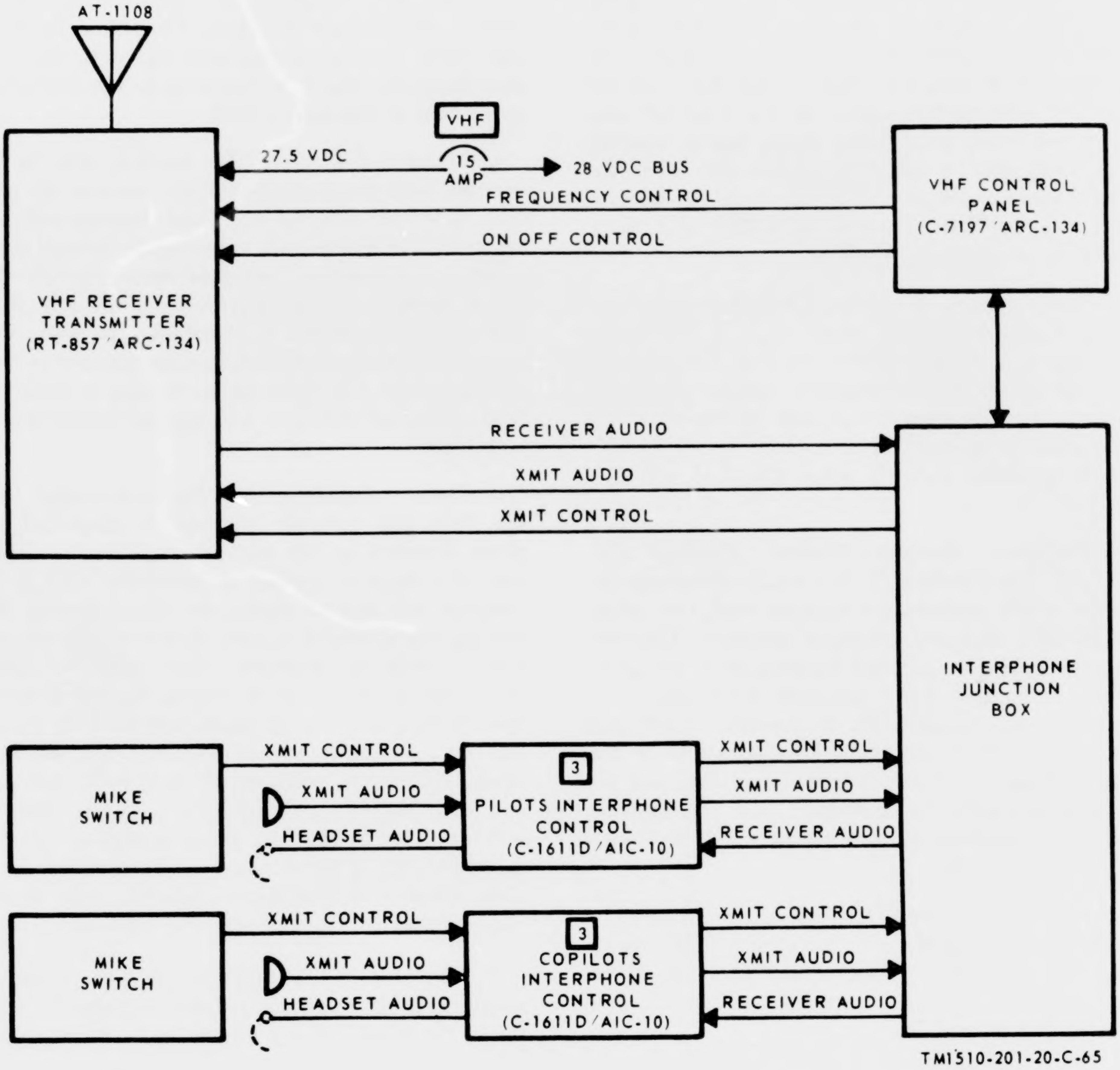
AT-1108
VHF
27.5 VDC
15 AMP
28 VDC BUS
FREQUENCY CONTROL
ON OFF CONTROL
VHF CONTROL PANEL (C-7197/ARC-134)
VHF RECEIVER TRANSMITTER (RT-857/ARC-134)
RECEIVER AUDIO
XMIT AUDIO
XMIT CONTROL
INTERPHONE JUNCTION BOX
MIKE SWITCH
XMIT CONTROL
XMIT AUDIO
HEADSET AUDIO
3
PILOTS INTERPHONE CONTROL (C-1611D/AIC-10)
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
MIKE SWITCH
XMIT CONTROL
XMIT AUDIO
HEADSET AUDIO
3
COPILOTS INTERPHONE CONTROL (C-1611D/AIC-10)
XMIT CONTROL
XMIT AUDIO
RECEIVER AUDIO
TM1510-201-20-C-65

Figure 3-7. Communication facility, configuration C, block diagram.

gation facility is blanked out during the period of transmission.

b. *Power and Control.* Power and control voltage for operation of the TACAN navigation set is supplied directly from the aircraft 28-vdc bus, 115-volt, 400-cps bus, through the ARN52 DC and ARN52 AC circuit breakers to the mounting (MT-1729/ARN-52(V)). 26-volt ac power for operation of the servo channel selection, ID-663C/U, and course indicator is supplied directly from the aircraft 26-volt ac transformer system. Power for operation of selector switch 1066B and relays is supplied from the aircraft 28 volts dc through the ARN52 DC circuit breaker. From the TACAN mounting, 27.5 volts dc is fed to the TACAN control panel. When the TACAN control panel function selector switch is rotated from the OFF position, the TACAN mounting power control relay is closed, applying operating power to the TACAN receiver-transmitter circuits and indicators. Selection of the desired facilities for display on the ID-663C/U is accomplished by setting the ID-663C/U selector switches to the desired positions (ADF or VOR, and ADF or TACAN).

c. *Reception.* All TACAN signals are received by the TACAN antenna and fed to the TACAN receiver-transmitter. The video components are detected, amplified, and supplied to the ID-

663C/U and the course indicator for visual display. Audio signals received when the TACAN control panel function selector switch is set to REC (receive), or T/R (transmit-receive) are fed from the TACAN receiver-transmitter to the TACAN control panel where the volume of the beacon identify tone is adjusted by the VOL control and fed to the interphone controls for application to the headset when the interphone control RECEIVERS NAV switch is set to the up position.

d. Transmission. When the TACAN control panel function selector switch is set to T/R (transmit-receive), or A/A (air to air), the TACAN receiver-transmit transmits interrogation signals that initiate reply signals from the ground station when the T/R mode is selected, or from another AN/ARN-52(V) equipped aircraft when the A/A mode is selected.

e. Indicator, Bearing - Distance - Heading ID-663C/U. The ID-663C/U is a combination-type indicator which consists of a compass card, two pointers, an OFF flag, and a distance indicator. The compass card provides aircraft heading from the gyrocompass; pointer No. 1 provides ADF and VOR bearing, and pointer No. 2 provides ADF and TACAN information; the OFF flag alarm is displayed when the course is from the station and the distance indicator is searching; and the distance indicator shows the distance to the TACAN station or another aircraft.

f. Indicator, Bearing-Heading ID-250/ARN. The ID-250, consisting of a compass card and two pointers, may be used in place of the ID-663C/U on configuration A and B aircraft where an ID-663C/U is not available.

3-9. Gyromagnetic Compass Facility, Configurations A, B, and C, Block Diagram

(fig. 3-9)

a. Power and Control. 27.5-volt dc power for operation of the control amplifier tube filaments is applied from the dc bus through the GYRO COMPASS circuit breaker directly to the control amplifier. Primary ac power from the aircraft inverters is applied through a phase inverter relay to the control amplifier and the servoamplifier. From the contol amplifier, the power is distributed to the ID-998/ASN.

b. Flux Valve. The flux valve detects the direction of the horizontal component of the earth's magnetic field and transmits this information electrically to the compass indicator. The signal from the flux valve develops a magnetic signal in the compass indicator which corresponds to the horizontal component of the earth's field.

c. Compass Indicator. The heading dial in the compass indicator is mechanically linked to the gyro unit. When the flux valve and the compass indicator are synchronized, no flux valve signal voltage is applied to the magnetic azimuth sensed by the flux valve. When the alignment between the flux valve and compass indicator is distributed, by gyro drift or by the operator's failure to synchronize the compass system, a flux valve signal voltage is developed in the compass indicator and applied to the control amplifier.

d. Control Amplifier. The flux valve signal voltage from the compass indicator is amplified and phase detected by the control amplifier; a slaving control voltage is applied to precession coils in the compass indicator to correct the misalignment. The slaving cutout switch is used to control the compass system mode of operation. The switch is shown closed for slaved mode of operation. The switch is open during the free mode of operation to remove the slaving control voltage from the compass indicator. Excitation voltages of 23.5 volts, 400 cps; and 26 volts, 400 cps; are also supplied by the control amplifier to the flux valve excitation coil and the gyromotor in the compass indicator, respectively. The control amplifier also supplies 22 volts dc to a clutch mechanism in the compass indicator.

e. Compensator. Alignment of the permanent magnets in the compensator are adjusted to counteract the effects of any local magnetic disturbance.

f. Servoamplifier. The servoamplifier amplifies control signals from the gyrocompass system for operation of the ID-998/ASN.

g. Radio Magnetic Indicator. The ID-998/ASN has two independent pointers which present ADF, VOR, and TACAN information. The pointers are read against a rotating, magnetic heading card which is servo connected to the gyrocompass so that the magnetic heading is always displayed at top of the dial. Selection of the desired facilities are made by a VOR ADF selector switch on the ID-998/ASN and the ID-998 ADF-TACAN switch located on the instrument panel. The ADF VOR switch of the ID-998/ASN selects either the automatic direction finder (ADF) or omni radio (Vor) for information to be indicated by pointer No. 1.

When the ID-998 ADF-TACAN switch is set to TACAN, TACAN information is indicated by pointer No. 2 and automatic direction finder information is indicated by pointer No. 1. When the ID-998 ADF-TACAN switch is set to ADF, automatic direction finder information is indicated by pointer No. 2, and the VOR or ADF selector switch on the ID-998/ASN selects the desired facility information for display by pointer No. 1.

h. Radio Magnetic Indicator, Configurations A and B. On configurations A and B aircraft, the ADF/VOR switch of the ID-998/ASN selects either ADF No. 1 or OMNI No. 2 (configuration A) or OMNI No. 1 (configuration B) to be indicated by pointer No. 1. When the ID-998 select switch is set to the up position, ADF No. 1 information is indicated by pointer No. 2. With the select switch in the down position, TACAN, ADF No. 2 or OMNI No. 1 (configuration A) or OMNI No. 2 (configuration B) information is displayed on pointer No. 2, dependent upon equipment installed.

3-10. Vhf Navigation Facility, Configurations A, B, and C, Block Diagram

(fig. 3-10)

a. Power and Control. Primary operating voltage (28 volts dc) for the omni radio set is applied to the power relay in the omnireceiver through the OMNI II circuit breaker. Dc receiver control voltage is routed to the omni control panel. When the VOL-OFF switch is moved from the OFF position, the power relay in the omnireceiver is closed, applying operating power to the receiver circuits. The omni control panel controls the frequency of both the omnireceiver and the glideslope receiver to associated glideslope and localizer.

b. Reception. RF signals from very high frequency omnirange (VOR) visual-aural range (VAR), and runway localizer transmitters are applied from the omniantenna through a coaxial cable to the omnireceiver. When the VHF-ILS switch is set to VHF, the navigation portion of a VOR signal is fed from the omnireceiver to the omni circuit of the rmi converter, where it is routed to the course indicator and the ID-998/ASN. When the VHF-ILS switch is set to ILS, the navigation portion of the VOR or runway localizer signal is fed from the omnireceiver to the VOR or localizer circuits of the rmi converter which converts it to a signal that will drive the ID-998/ASN. In either mode of operation, the audio portion of the received signal is routed from the omnireceiver to the omni control panel where the volume level may be adjusted. The audio is then fed to the interphone control for application to the headset-microphone when the RECEIVERS NAV switch is set to ON.

3-11. Navigation Facility Options, Configurations A and B, Block Diagram

(figs. 3-11 through 3-13)

a. Installation Options. U-8D and U-8F aircraft, configurations A and B, have provisions for five navigational systems, but, dependent upon operational considerations, only three systems are installed. When the equipment options are installed, a navigational system select switch is positioned to coincide with the installation. The three combinations of navigational equipment are—

(1) *System I.* One Radio Receiving Set AN/ARN-30E (OMNI); and two Direction Finder Sets AN/ARN-59(V) (ADF) (ADF No. 1 and ADF No. 2).

(2) *System II.* One Radio Receiving Set AN/ARN-30E (OMNI No. 2—configuration A or OMNI No. 1—configuration B); one Radio Receiving Set AN/ARN-30D (OMNI No. 1—configuration A or OMNI No. 2—configuration B); and one Direction Finder Set AN/ARN-59(V) (ADF).

(3) *System III.* One Radio Receiving Set AN/ARN-30E (OMNI); one Direction Finder Set AN/ARN-59(V) (ADF); and one TACAN Navigation Set AN/ARN-52(V).

b. Navigation System I (fig. 3-11). When the ID-250/ID-663 select switch (52S1) is positioned to VOR or ADF, OMNI or ADF No. 1 heading information is applied to pointer 1 of the ID-663C/U. At the same time, ADF No. 1 or ADF No. 2 heading information is applied to pointer 2, dependent upon the position of ID-250/ID-663 select switch (52S2). ADF No. 1 or ADF No. 2 heading information is also applied to pointer 2 of RMI Indicator ID-998/ASN, dependent upon the position of the ID-998 select switch. Gyrocompass magnetic heading information is applied to the compass cards of the indicators at all times.

c. Navigation System II (fig. 3-12). When the ID-250/ID-663 select switch (52S1) is positioned to VOR or ADF, OMNI No. 2—configuration A (or OMNI No. 1—configuration B) or ADF heading information is applied to pointer 1 of the ID-

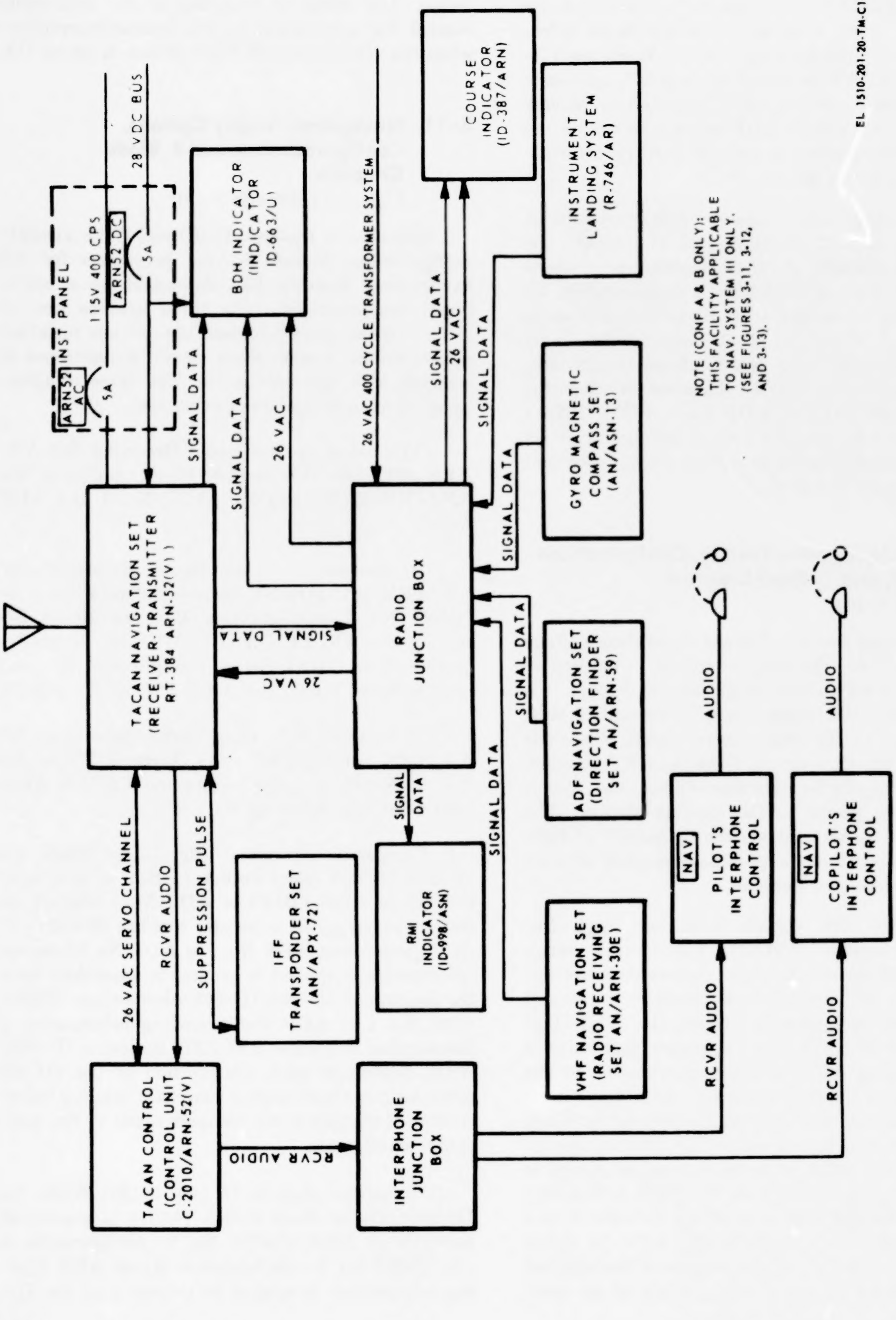
TACAN NAVIGATION SET (RECEIVER-TRANSMITTER RT-384 ARN-52(V))
TACAN CONTROL (CONTROL UNIT C-2010/ARN-52(V))
INTERPHONE JUNCTION BOX
RADIO JUNCTION BOX
BDH INDICATOR (INDICATOR ID-663/U)
COURSE INDICATOR (ID-387/ARN)
INSTRUMENT LANDING SYSTEM (R-746/AR)
GYRO MAGNETIC COMPASS SET (AN/ASN-13)
ADF NAVIGATION SET (DIRECTION FINDER SET AN/ARN-59)
VHF NAVIGATION SET (RADIO RECEIVING SET AN/ARN-30E)
IFF TRANSPONDER SET (AN/APX-72)
RMI INDICATOR (ID-998/ASN)
NAV
PILOT'S INTERPHONE CONTROL
NAV
COPILOT'S INTERPHONE CONTROL
INST PANEL
ARN52 AC
5A
115V 400 CPS
ARN52 DC
5A
28 VDC BUS
26 VAC 400 CYCLE TRANSFORMER SYSTEM
SIGNAL DATA
SIGNAL DATA
26 VAC
SIGNAL DATA
26 VAC
SIGNAL DATA
SIGNAL DATA
SIGNAL DATA
SIGNAL DATA
SIGNAL DATA
26 VAC
SIGNAL DATA
26 VAC SERVO CHANNEL
RCVR AUDIO
SUPPRESSION PULSE
RCVR AUDIO
AUDIO
AUDIO
RCVR AUDIO
RCVR AUDIO
NOTE (CONF A & B ONLY): THIS FACILITY APPLICABLE TO NAV. SYSTEM III ONLY. (SEE FIGURES 3-11, 3-12, AND 3-13).
EL 1510-201-20-TM-C1-76

Figure 3–8. TACAN navigation facility, configurations A, B, and C, block diagram.

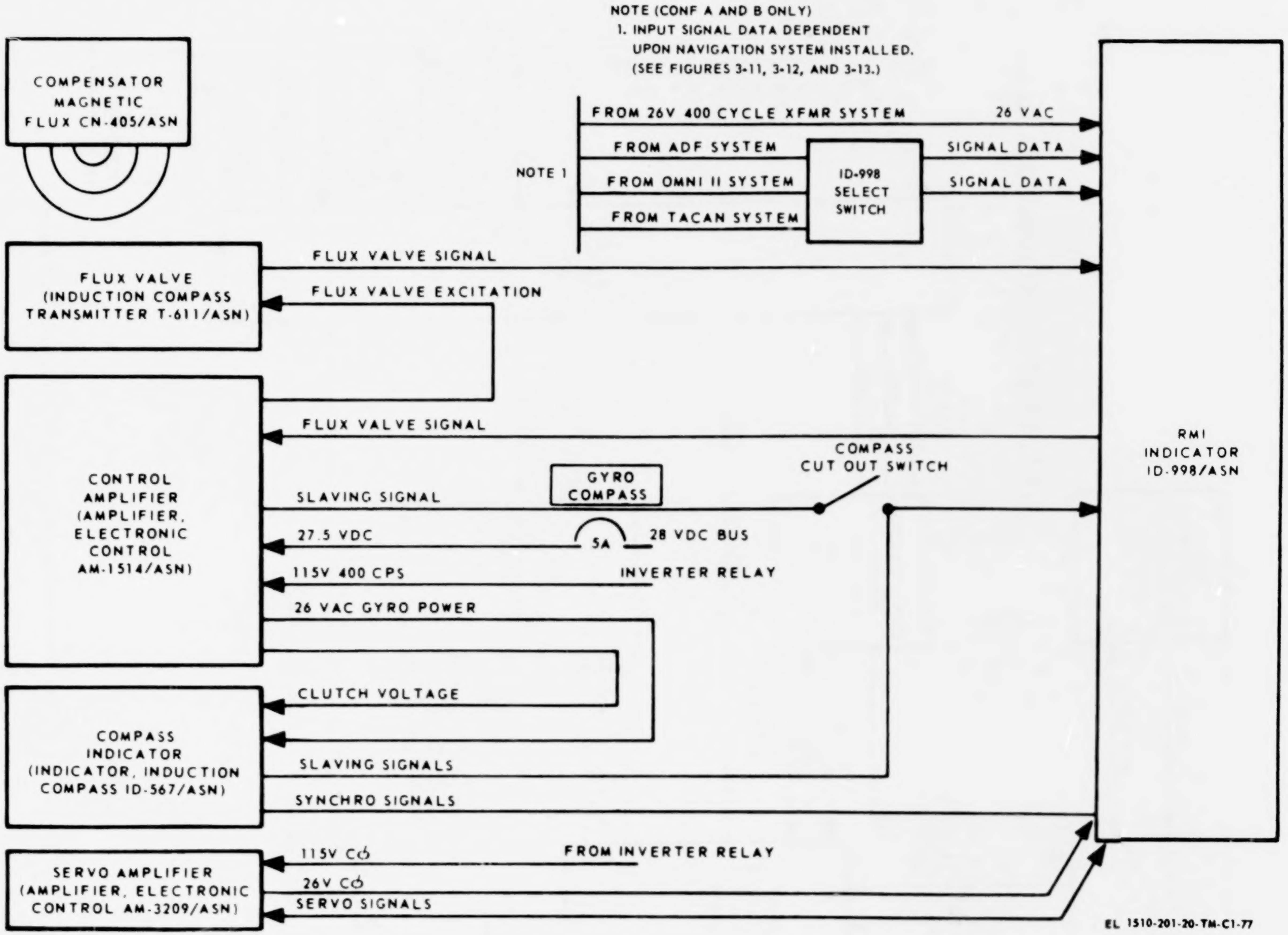
NOTE (CONF A AND B ONLY)
1. INPUT SIGNAL DATA DEPENDENT UPON NAVIGATION SYSTEM INSTALLED. (SEE FIGURES 3-11, 3-12, AND 3-13.)
COMPENSATOR MAGNETIC FLUX CN-405/ASN
NOTE 1
FROM 26V 400 CYCLE XFMR SYSTEM
26 VAC
FROM ADF SYSTEM
FROM OMNI II SYSTEM
FROM TACAN SYSTEM
ID-998 SELECT SWITCH
SIGNAL DATA
SIGNAL DATA
FLUX VALVE (INDUCTION COMPASS TRANSMITTER T-611/ASN)
FLUX VALVE SIGNAL
FLUX VALVE EXCITATION
CONTROL AMPLIFIER (AMPLIFIER, ELECTRONIC CONTROL AM-1514/ASN)
FLUX VALVE SIGNAL
RMI INDICATOR ID-998/ASN
COMPASS CUT OUT SWITCH
GYRO COMPASS
SLAVING SIGNAL
27.5 VDC
5A
28 VDC BUS
115V 400 CPS
INVERTER RELAY
26 VAC GYRO POWER
CLUTCH VOLTAGE
COMPASS INDICATOR (INDICATOR, INDUCTION COMPASS ID-567/ASN)
SLAVING SIGNALS
SYNCHRO SIGNALS
SERVO AMPLIFIER (AMPLIFIER, ELECTRONIC CONTROL AM-3209/ASN)
115V CΦ
FROM INVERTER RELAY
26V CΦ
SERVO SIGNALS

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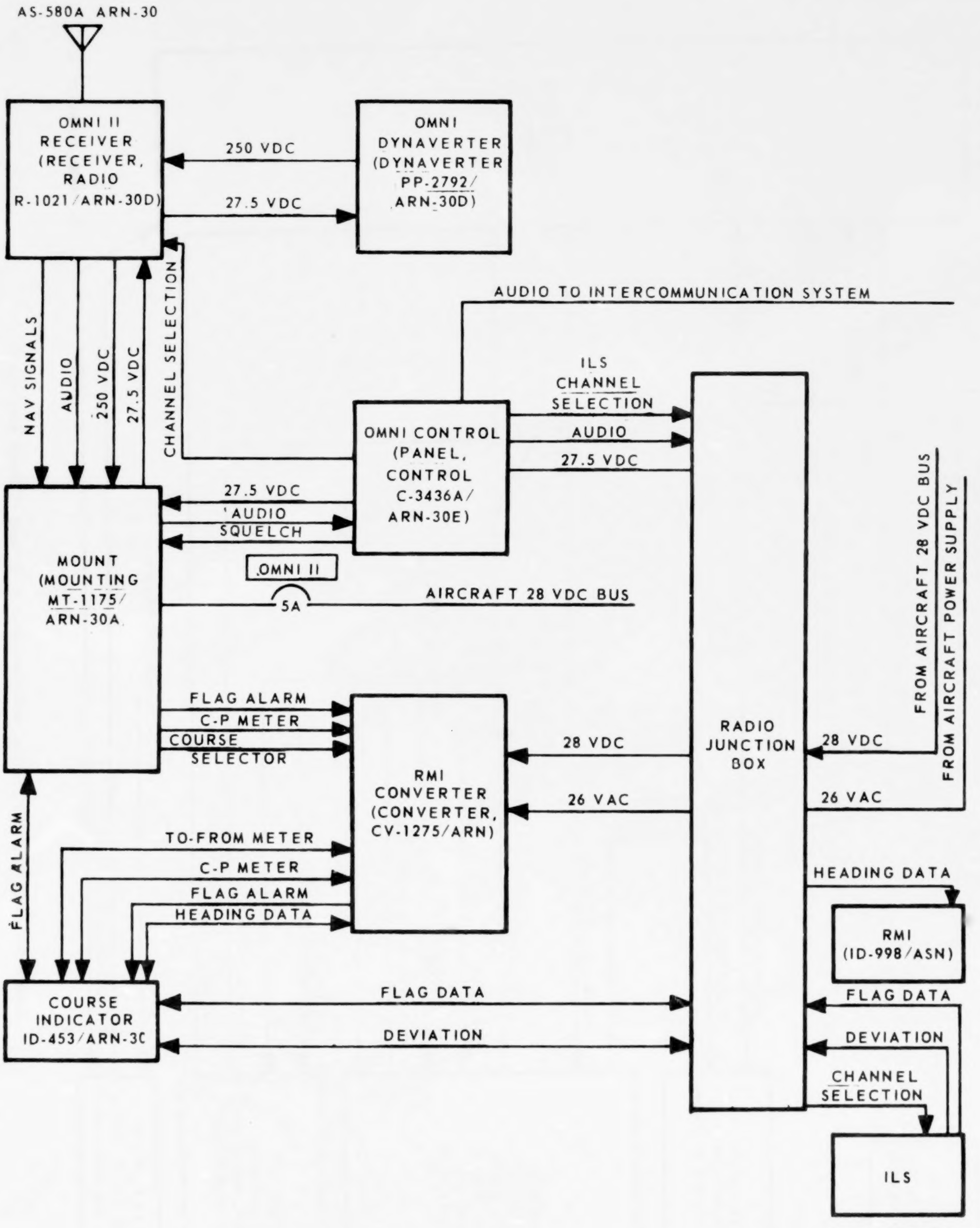
Figure 3–9. Gyrocompass facility, configurations A, B, and C, block diagram.


AS-580A ARN-30
OMNI II RECEIVER (RECEIVER, RADIO R-1021/ARN-30D)
OMNI DYNAVERTER (DYNAVERTER PP-2792/ARN-30D)
250 VDC
27.5 VDC
NAV SIGNALS
AUDIO
250 VDC
27.5 VDC
CHANNEL SELECTION
AUDIO TO INTERCOMMUNICATION SYSTEM
ILS CHANNEL SELECTION
AUDIO
27.5 VDC
OMNI CONTROL (PANEL, CONTROL C-3436A/ARN-30E)
27.5 VDC
AUDIO
SQUELCH
MOUNT (MOUNTING MT-1175/ARN-30A
OMNI II
5A
AIRCRAFT 28 VDC BUS
RADIO JUNCTION BOX
FROM AIRCRAFT 28 VDC BUS
FROM AIRCRAFT POWER SUPPLY
28 VDC
26 VAC
28 VDC
26 VAC
FLAG ALARM
C-P METER
COURSE SELECTOR
RMI CONVERTER (CONVERTER, CV-1275/ARN)
FLAG ALARM
TO-FROM METER
C-P METER
FLAG ALARM
HEADING DATA
HEADING DATA
RMI (ID-998/ASN)
COURSE INDICATOR ID-453/ARN-30
FLAG DATA
DEVIATION
FLAG DATA
DEVIATION
CHANNEL SELECTION
ILS

TM1510-201-20-C-25

Figure 3–10. Vhf navigation facility, configurations A, B, and C, block diagram.

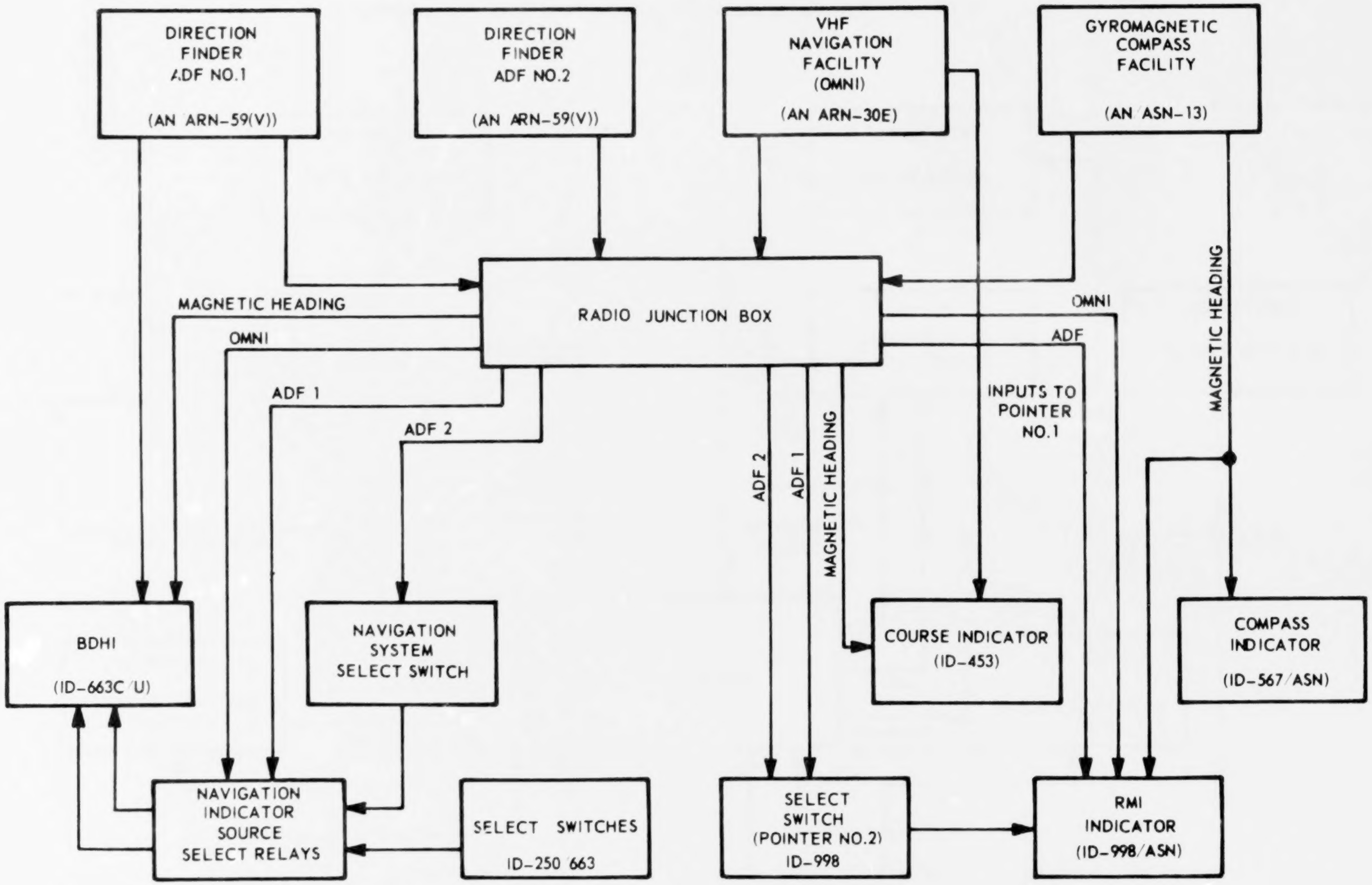

DIRECTION
FINDER
ADF NO.1
(AN ARN-59(V))
DIRECTION
FINDER
ADF NO.2
(AN ARN-59(V))
VHF
NAVIGATION
FACILITY
(OMNI)
(AN ARN-30E)
GYROMAGNETIC
COMPASS
FACILITY
(AN ASN-13)
RADIO JUNCTION BOX
MAGNETIC HEADING
OMNI
ADF 1
ADF 2
OMNI
ADF
INPUTS TO POINTER NO.1
MAGNETIC HEADING
ADF 2
ADF 1
MAGNETIC HEADING
BDHI
(ID-663C/U)
NAVIGATION
SYSTEM
SELECT SWITCH
COURSE INDICATOR
(ID-453)
COMPASS
INDICATOR
(ID-567/ASN)
NAVIGATION
INDICATOR
SOURCE
SELECT RELAYS
SELECT SWITCHES
ID-250/663
SELECT
SWITCH
(POINTER NO.2)
ID-998
RMI
INDICATOR
(ID-998/ASN)

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Figure 3-11. Navigation facility, system I, configurations A and B.

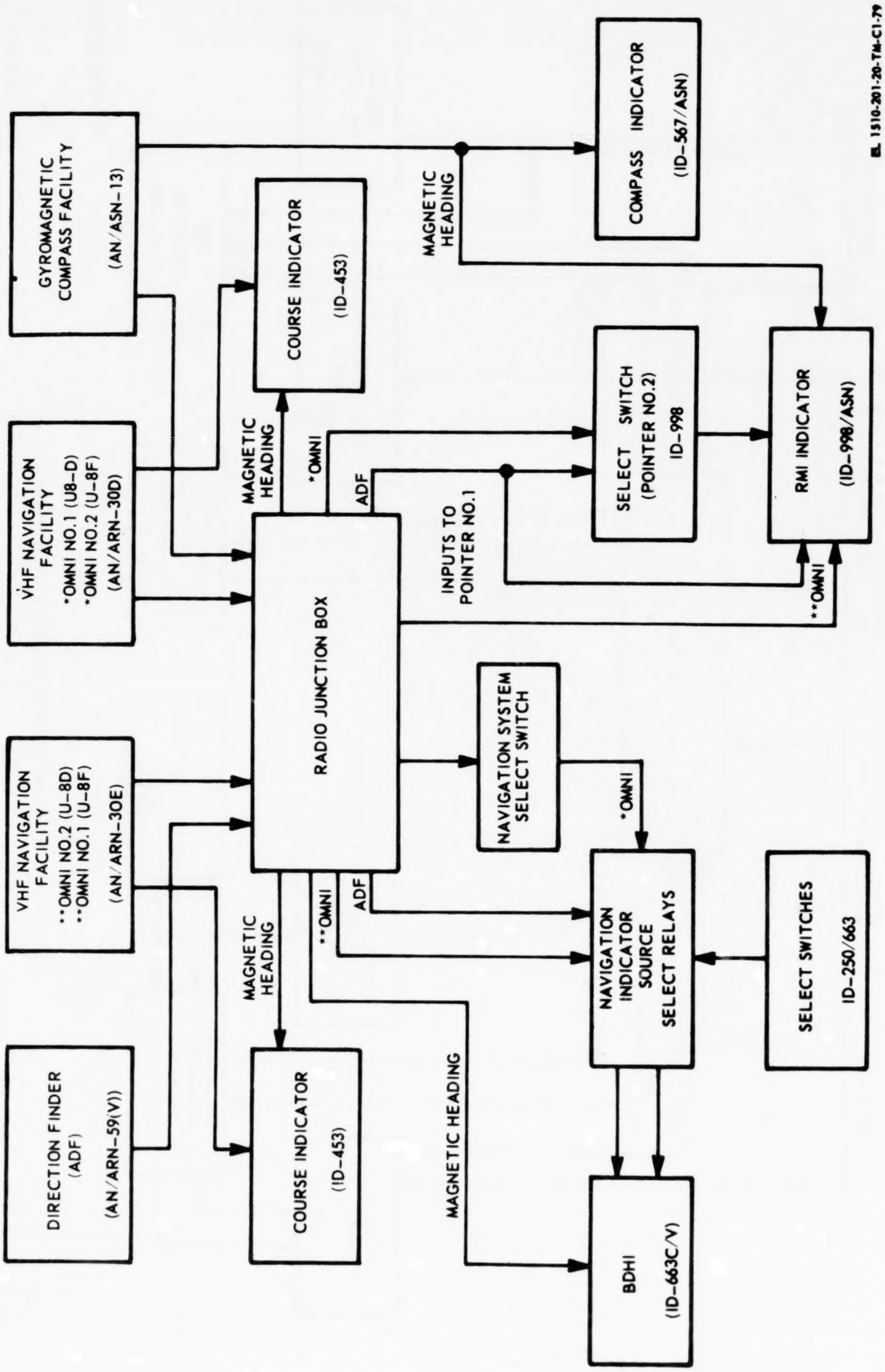
GYROMAGNETIC COMPASS FACILITY
(AN/ASN-13)
COMPASS INDICATOR
(ID-567/ASN)
MAGNETIC HEADING
COURSE INDICATOR
(ID-453)
VHF NAVIGATION FACILITY
*OMNI NO.1 (U8-D)
*OMNI NO.2 (U-8F)
(AN/ARN-30D)
MAGNETIC HEADING
*OMNI
ADF
SELECT SWITCH
(POINTER NO.2)
ID-998
RMI INDICATOR
(ID-998/ASN)
INPUTS TO POINTER NO.1
**OMNI
RADIO JUNCTION BOX
NAVIGATION SYSTEM SELECT SWITCH
*OMNI
VHF NAVIGATION FACILITY
**OMNI NO.2 (U-8D)
**OMNI NO.1 (U-8F)
(AN/ARN-30E)
MAGNETIC HEADING
**OMNI
ADF
NAVIGATION INDICATOR SOURCE SELECT RELAYS
SELECT SWITCHES
ID-250/663
DIRECTION FINDER
(ADF)
(AN/ARN-59(V))
COURSE INDICATOR
(ID-453)
MAGNETIC HEADING
BDHI
(ID-663C/V)

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Figure 3-12. Navigation facility, system II, configurations A and B.

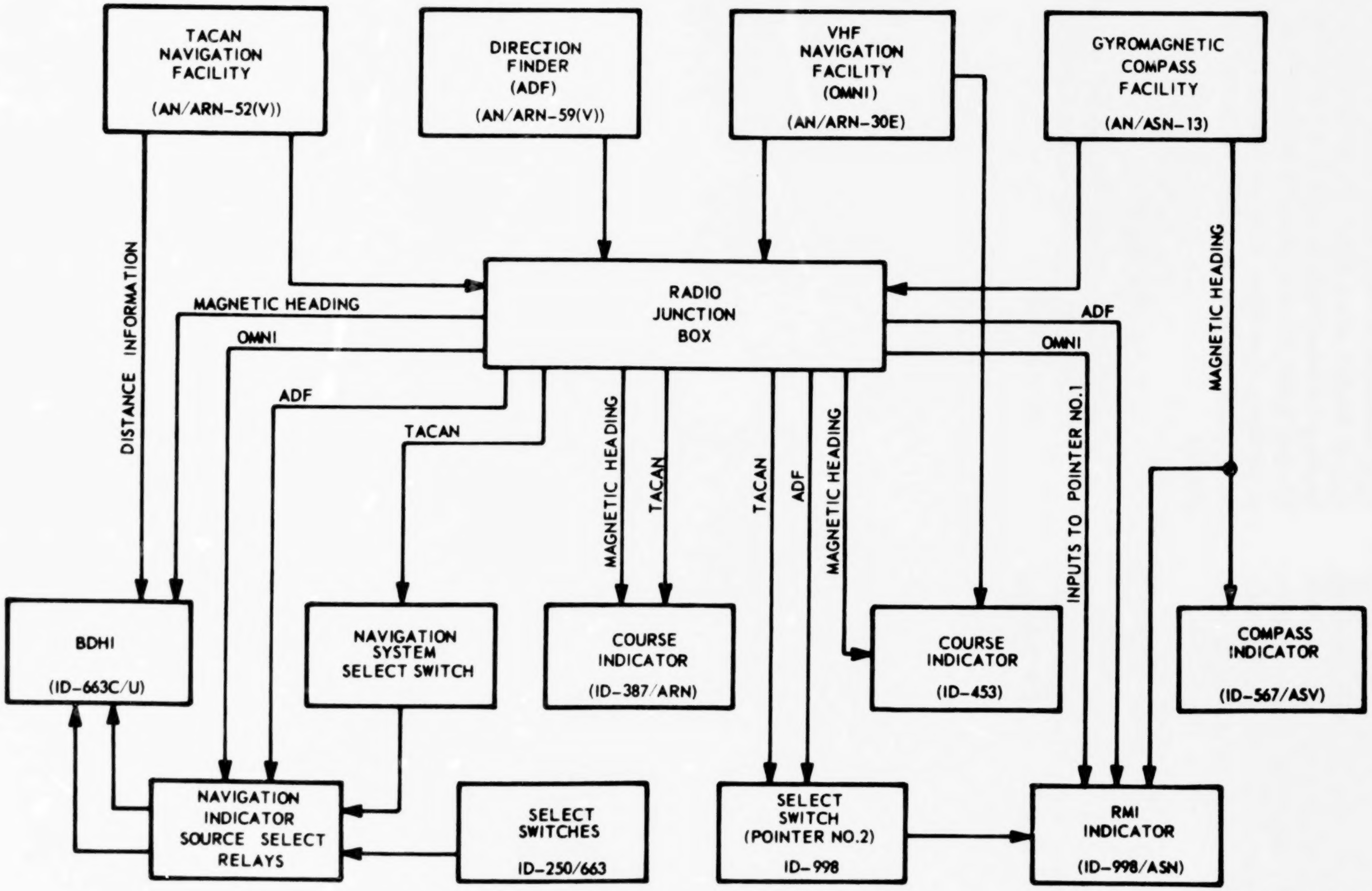
TACAN
NAVIGATION
FACILITY
(AN/ARN-52(V))
DIRECTION
FINDER
(ADF)
(AN/ARN-59(V))
VHF
NAVIGATION
FACILITY
(OMNI)
(AN/ARN-30E)
GYROMAGNETIC
COMPASS
FACILITY
(AN/ASN-13)
RADIO
JUNCTION
BOX
DISTANCE INFORMATION
MAGNETIC HEADING
OMNI
ADF
TACAN
MAGNETIC HEADING
TACAN
TACAN
ADF
MAGNETIC HEADING
ADF
OMNI
INPUTS TO POINTER NO.1
MAGNETIC HEADING
BDHI
(ID-663C/U)
NAVIGATION
SYSTEM
SELECT SWITCH
COURSE
INDICATOR
(ID-387/ARN)
COURSE
INDICATOR
(ID-453)
COMPASS
INDICATOR
(ID-567/ASV)
NAVIGATION
INDICATOR
SOURCE SELECT
RELAYS
SELECT
SWITCHES
ID-250/663
SELECT
SWITCH
(POINTER NO.2)
ID-998
RMI
INDICATOR
(ID-998/ASN)

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Figure 3-13. Navigation facility, system III, configurations A and B.

663C/U. At the same time, ADF or OMNI No. 1—configuration A (or OMNI No. 2—configuration B) heading information is applied to pointer 2, dependent upon the position of ID-250/ID-663 select switch (52S2). OMNI No. 1 (configuration A, or OMNI No. 2—configuration B) or ADF heading information is also applied to pointer 2 of RMI Indicator ID-998/ASN, dependent upon the position of ID-998 select switch. Gyrocompass magnetic heading information is available to indicators as in *b* above.

d. Navigation System III (fig. 3-13). When the ID-250/ID-663 select switch (52S1) is positioned to VOR or ADF, OMNI or ADF heading information is applied to pointer 1 of the ID-663C/U indicator. At the same time, TACAN or ADF heading information is applied to pointer 2 of the ID-663C/U, dependent upon the position of ID-250/ID-663 select switch (52S2). TACAN or ADF heading information is also applied to pointers of RMI Indicator ID-998/ASN, dependent upon position of ID-998 select switch. Gyrocompass magnetic heading information is available to the ID-663C/U, ID-387/ARN, ID-453, and ID-998/ASN indicators at all times. Operation of all navigational indicators is identical to that specified in preceding paragraphs.

NOTE

When Indicator ID-250 is installed in lieu of ID-663C/U, TACAN distance function is not available.

CHAPTER 4

WIRING DIAGRAMS

4–1. General

The wiring diagrams (figs. 4–1 through 4–42) are detailed interconnecting diagrams for the basic electronic equipment facilities of each configuration, as well as for pertinent installation items. The wires are identified by a number which is stamped at intervals throughout the length of the wire; *for example*, RN3659A20N. The first symbol (RN) identifies the circuit function. The wire number (3659) differentiates between wires in a particular circuit. The letter (A) identifies the segment which identifies the wire run between terminals or connections. At each joint or wire connection, the cable segment letter changes to the next letter in the alphabet. The figure (20) indicates the AN size of the wire. The letter (N) identifies a wire which completes a circuit to ground. When two identifical systems are used, the wire identification is prefixed by the figure 2 to identify the No. 2 system. Refer to the chart given in paragraph 4–2 for code letters and functions.

4–2. Wire Identification Code

Code letters	*Function*
RA	Radio instrument landing
RF	Fm liaison
RL	Hf radio
RM	Marker beacon
RN	Navigation
RU	Uhf command
RZ	Interphone
SN	Radar navigation
SX	Radar recognition (IFF)
TN	Special electronic navigation
U	Miscellaneous electronic
F	Magnetic compass

4–3. List of Wiring Diagrams

Following is a listing of wiring diagrams for the U–8 aircraft electronic equipment configuration:

Fig. No.	*Title*
4–1	Hf communication facility, configuration A
4–2	Hf communication facility, configuration B
4–3	Fm communication facility, configuration A
4–4	Fm communication facility, configuration B
4–5	Fm communication facility, configuration C
4–6	Uhf command facility, configuration A
4–7	Uhf command facility, configuration B
4–8	Uhf command facility, configuration C
4–9	Secure voice facility, configurations A and C
4–10	Secure voice facility, configuration B
4–11	Interphone facility, configuration B
4–12	Interphone facility, configuration A
4–13	Interphone facility, configuration C
4–14	IFF transponder facility, configuration A
4–15	IFF transponder facility, configuration B
4–16	IFF transponder facility, configuration C
4–17	ILS radio receiving circuit, R–746/AR, configuration A.
4–18	ILS radio receiving circuit, R–746/AR, configuration B.
4–19	TACAN facility, configuration A
4–20	TACAN facility, configuration B
4–21	TACAN facility, configuration C
4–22	Gyromagnetic compass facility, configuration A.
4–23	Gyromagnetic compass facility, configuration B.
4–24	Gyromagnetic compass facility, configuration C.
4–25	Vhf navigation facility, omni No. 1, configuration A.
4–25.1	Vhf navigation facility, omni No. 2, configuration A.
4–26	Vhf navigation facility, omni No. 1, configuration B.
4–26.1	Vhf navigation facility, omni No. 2, configuration B.
4–27	Vhf navigation facility, configuration C
4–28	ADF navigation facility, configuration C
4–28.1	ADF No. 1, configuration A
4–28.2	ADF No. 2, configuration A
4–29	ADF No. 1, configuration B
4–29.1	ADF No. 2, configuration B
4–30	Marker beacon AN/ARN–12, configuration A
4–30.1	Marker beacon AN/ARN–32, configuration A
4–31	Marker beacon AN/ARN–32, configuration B
4–31.1	Marker beacon R–1041/ARN, configuration B
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APPENDIX A
REFERENCES

The following is a list of applicable references available to the organizational maintenance repairman for the electronic equipment configuration in Army Models U–8D, U–8F, and U–8G Aircraft.

DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310–7	U.S. Army Equipment Index of Modification Work Orders.
SB 11–573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB 746-10	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 9–213	Painting Instructions for Field Use.
TM 55–1500–323–25	Organizational, DS, GS, and Depot Maintenance Manual Installation Practices for Aircraft Electric and Electronic Wiring.
TM 11–1510–201–20P	Organizational Maintenance Repair Parts and Special Tool Lists: Installation Items for Electronic Equipment in aircraft Fixed Wing, Command U–8D and U–8F.
TM 11–5556	Signal Generator SG–13/ARN.
TM 11–5820–518–20	Operator and Organizational Maintenance Manual (Including Repair Parts and Special Radio Sets AN/ARC–51X and Tool Lists): AN/ARC–51BX.
TM 11–5821–244–12	Operator and Organizational Maintenance Manual: Radio Set AN/ARC–54 and Control Indicator C–8157/ARC.
TM 11–5821–248–12	Organizational Maintenance Manual: Radio Set AN/ARC–102
TM 11–5821–248–20P	Organizational Maintenance Repair Parts nad Special Tool Lists: Radio Set AN/ARC–102.
TM 11–5821–277–25–1	Organizational, DS, GS, and Depot Maintenance Manual: Receiver-Transmitter RT–857/ARC–134 and Mounting MT–3791/ARC–134 (Part of Radio Set AN/ARC–134).
TM 11–5821–277–25–2	→Organizational, DS, GS, and Depot Maintenance Manual: Control, Radio Set C–7197/ARC–134 (Part of Radio Set AN/ARC–134).
TM 11–5826–204–12	Organizational Maintenance Manual: Direction Finder Set AN/ARN–59(V).
TM 11–5826–215–12	Organizational Maintenance Manual Including Repair Parts and Special Tool Lists: Receiving Set, Radio AN/ARN–30D and AN/ARN–30E.
TM 11–5826–223–15P	Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Converter, Radio Magnetic Indicator CV–1275/ARN.
TM 11–5831–201–15	Organizational, DS, GS, and Depot Maintenance Manual (Including Repair Parts and Special Tool Lists): Controls, Intercommunication Set C–1611/AIC, C–1611B/AIC, C–1611C/AIC, and C–1611D/AIC.
TM 11–5895–217–12	Operator and Organizational Maintenance Manual Including Repair Parts List: Transponder Sets AN/APX–44 and AN/APX–44B.

TM 11-6625-203-12	Operator and Organizational Maintenance Manual: Multimeter AN/URM-105, Including Multimeter ME-77/U.
TM 11-6625-1634-15	Organizational, DS, GS, and Depot Maintenance Manual: Test Set, Radio AN/URM-101A.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 55-405-3	Army Aviation Maintenance Engineering Manual: Maintenance of Aircraft Systems.
TM 55-1510-201-10	Operators Manual: Army Models U-8D, U-8F, and U-8E Aircraft (Beech).
TM 55-1510-201-20	Organizational Maintenance Manual: Army Model U-8D and U-8F Aircraft.
TM 55-1510-201-20P	Organizational Maintenance Repair Parts and Special Tool Lists: Airplane, Utility, U-8D, U-8F, U-8G (Beech), Airplane, Utility, Reconnaissance, RU-8D (Beech), FSN 1510-574-7938 (U-8D), 1510-701-2233 (U-8F), 1510-912-4084 (U-8G), 1510-945-9998 (RU-8D), 2810-600-4666 (0-480-1), 2810-764-5961 (0-480-1A), 2810-893-2013 (0-480-3).
TM 11-5820-670-12	Operator and Organization Maintenance Manual: Radio Set AN/ARC-131

APPENDIX B

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Electronic Equipment Configuration, Army Models U-8D, U-8F, U-8G Aircraft. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Not used.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	Maintenance category
C	Operator/crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self-explanatory.

B-3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

SECTION II. MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	ELECTRONIC EQUIPMENT CONFIGURATION, ARMY MODELS U-8D, U-8F, and U-8G AIRCRAFT													
	COMMUNICATIONS:													
	CONTROL, INTERCOMMUNICATION SET C-1611(*)/AIC								O	#			1,2	See TM 11-5831-201-15
	RADIO SET AN/ARC-102								O	#			1	See TM 11-5821-248-12
	Coupler, Antenna CU-1658A								O	#			1	See TM 11-5821-271-25
	RADIO SET AN/ARC-54	O	O	O					O	#				See TM 11-5821-244-12
	ANTENNA, AS-1703/AR	O		O					F				3	
	RADIO SET AN/ARC-51BX	O	O	O					#	#			2	See TM 11-5820-518-12
	ANTENNA, AT-1108/ARC	O		O									2	
	Radio Set AN/ARC-131	O	O	O					O	#				See TM 11-5820-670-12
	RADIO SET AN/ARC-134	O		O					O	#			1,2	See TM 11-5821-277-25-1
	RECEIVER-TRANSMITTER, RADAR RT-859/APX-72	O	O	O					F					See TM 11-5895-490-20
	CONTROL, TRANSPONDER SET C-6280(P)(*)/APX	O	O	O					O				1	See TM 11-5841-268-25
	NAVIGATIONAL:													
	DIRECTION-FINDER SET AN/ARN-59(V)	O		O						#				See TM 11-5826-204-12
	RECEIVING SET, RADIO AN/ARN-30E	O		O						#				See TM 11-5826-215-12
	CONVERTER, SIGNAL DATA CV-1275/ARN								O	#				See TM 11-5826-223-15P
	INDICATOR, COURSE ID-453/ARN-30								O					See TM 11-5826-207-12P
	GYRO MAGNETIC COMPASS SET AN/ASN-13	O		O					O	#			1	See TM 11-5558
	INDICATOR, INDUCTION COMPASS ID-567/ASN	O		O					O	D	D		1	

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	U-8 Aircraft (continued)													
	COMPENSATOR, MAGNETIC FLUX CN-405/ASN	O		O					O	#				See TM 11-6615-201-12
	TRANSMITTER, INDUCTION COMPASS T-611/ASN	O		O					O	#				See TM 11-6615-201-12
	AMPLIFIER, ELECTRONIC CONTROL AM-1514/ASN	O		O					O	#			1	See TM 11-5558
	AMPLIFIER, ELECTRONIC CONTROL AM-3209/ASN	O		O					O				1	See TM 11-6110-211-15
	INDICATOR, ID-998/ASN	O		O					O				1	
	TACAN NAVIGATIONAL SET AN/ARN-52(V)	O		O					O	#			1	See TM 11-5826-235-20
	INDICATOR, BEARING-DISTANCE-HEADING ID-663/U	O		O									1	
	INDICATOR, COURSE ID-387/ARN	O		O									1	
	ANTENNA AT-741/A	O		O									1	

#Indicates that maintenance guidance will be found in documents referenced in remarks column.

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		U-8 Aircraft (continued)		
1	O	TOOL KIT TK-101/G		
2	O,F,H,D	MULTIMETER AN/URM-105		
3	F,H,D	TOOL KIT TK-105/U		

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TACAN navigation facility	3–8	3–9
Uhf command facility	3–4	3–5
Vhf communication facility	3–7	3–9
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Control, Radio Set C–3940/ARC–94, removal and replacement	2–19	2–24
Control, Radio Set C–6287/ARC–51BX, removal and replacement	2–26	2–30
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By Order of the Secretary of the Army:

W. C. WESTMORELAND,
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Chief of Staff.

Official:
VERNE L. BOWERS,
Major General, United States Army,
The Adjutant General.

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MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	U-8 Aircraft (continued)													
	COMPENSATOR, MAGNETIC FLUX CN-405/ASN	O		O					O	#				See TM 11-6615-201-12
	TRANSMITTER, INDUCTION COMPASS T-611/ASN	O		O					O	#				See TM 11-6615-201-12
	AMPLIFIER, ELECTRONIC CONTROL AM-1514/ASN	O		O					O	#			1	See TM 11-5558
	AMPLIFIER, ELECTRONIC CONTROL AM-3209/ASN	O		O					O				1	See TM 11-6110-211-15
	INDICATOR, ID-998/ASN	O		O					O				1	
	TACAN NAVIGATIONAL SET AN/ARN-52(V)	O		O					O	#			1	See TM 11-5826-235-20
	INDICATOR, BEARING-DISTANCE-HEADING ID-663/U	O		O									1	
	INDICATOR, COURSE ID-387/ARN	O		O									1	
	ANTENNA AT-741/A	O		O									1	
	#Indicates that maintenance guidance will be found in documents referenced in remarks column.													

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		U-8 Aircraft (continued)		
1	O	TOOL KIT TK-101/G		
2	O,F,H,D	MULTIMETER AN/URM-105		
3	F,H,D	TOOL KIT TK-105/U		

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Receiver-Transmitter RT–384/ARN–52(V)	2–31	2–32
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By Order of the Secretary of the Army:

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Chief of Staff.

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The Adjutant General.

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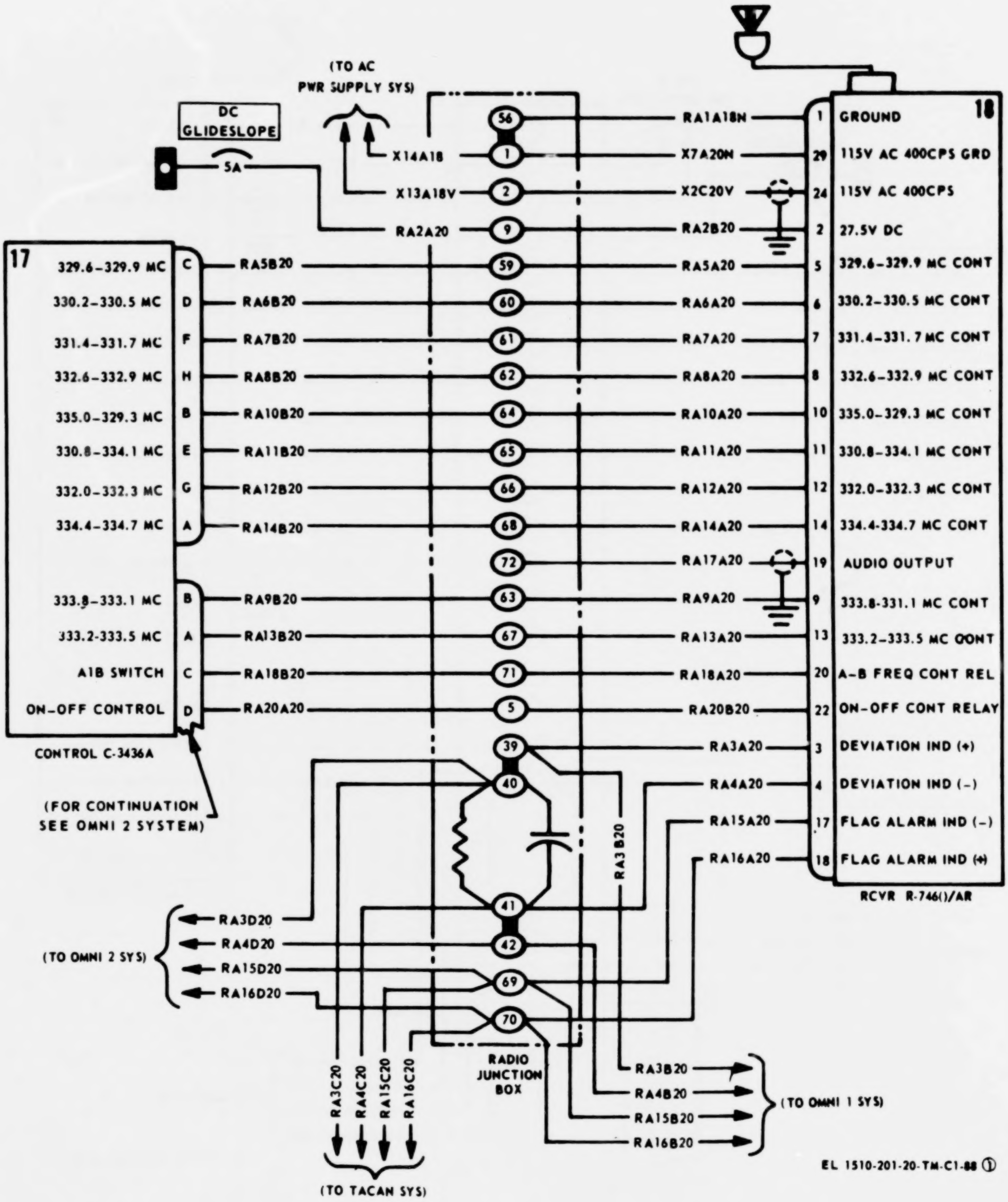

(TO AC PWR SUPPLY SYS)
DC GLIDESLOPE
5A
X14A18
X13A18V
RA2A20
56
1
2
9
RA1A18N
X7A20N
X2C20V
RA2B20
18
1 GROUND
29 115V AC 400CPS GRD
24 115V AC 400CPS
2 27.5V DC
17
329.6-329.9 MC C
330.2-330.5 MC D
331.4-331.7 MC F
332.6-332.9 MC H
335.0-329.3 MC B
330.8-334.1 MC E
332.0-332.3 MC G
334.4-334.7 MC A
333.8-333.1 MC B
333.2-333.5 MC A
AIB SWITCH C
ON-OFF CONTROL D
CONTROL C-3436A
(FOR CONTINUATION SEE OMNI 2 SYSTEM)
RA5B20
RA6B20
RA7B20
RA8B20
RA10B20
RA11B20
RA12B20
RA14B20
RA9B20
RA13B20
RA18B20
RA20A20
59
60
61
62
64
65
66
68
72
63
67
71
5
39
40
41
42
69
70
RA5A20
RA6A20
RA7A20
RA8A20
RA10A20
RA11A20
RA12A20
RA14A20
RA17A20
RA9A20
RA13A20
RA18A20
RA20B20
RA3A20
RA4A20
RA15A20
RA16A20
5 329.6-329.9 MC CONT
6 330.2-330.5 MC CONT
7 331.4-331.7 MC CONT
8 332.6-332.9 MC CONT
10 335.0-329.3 MC CONT
11 330.8-334.1 MC CONT
12 332.0-332.3 MC CONT
14 334.4-334.7 MC CONT
19 AUDIO OUTPUT
9 333.8-331.1 MC CONT
13 333.2-333.5 MC CONT
20 A-B FREQ CONT REL
22 ON-OFF CONT RELAY
3 DEVIATION IND (+)
4 DEVIATION IND (-)
17 FLAG ALARM IND (-)
18 FLAG ALARM IND (+)
RCVR R-746()/AR
RA3B20
RA3D20
RA4D20
RA15D20
RA16D20
(TO OMNI 2 SYS)
RA3C20
RA4C20
RA15C20
RA16C20
(TO TACAN SYS)
RADIO JUNCTION BOX
RA3B20
RA4B20
RA15B20
RA16B20
(TO OMNI 1 SYS)
EL 1510-201-20-TM-C1-88 ①

Figure 4-17①. ILS radio receiving circuit R-746/AR, configuration A, wiring diagram (sheet 1 of 2).

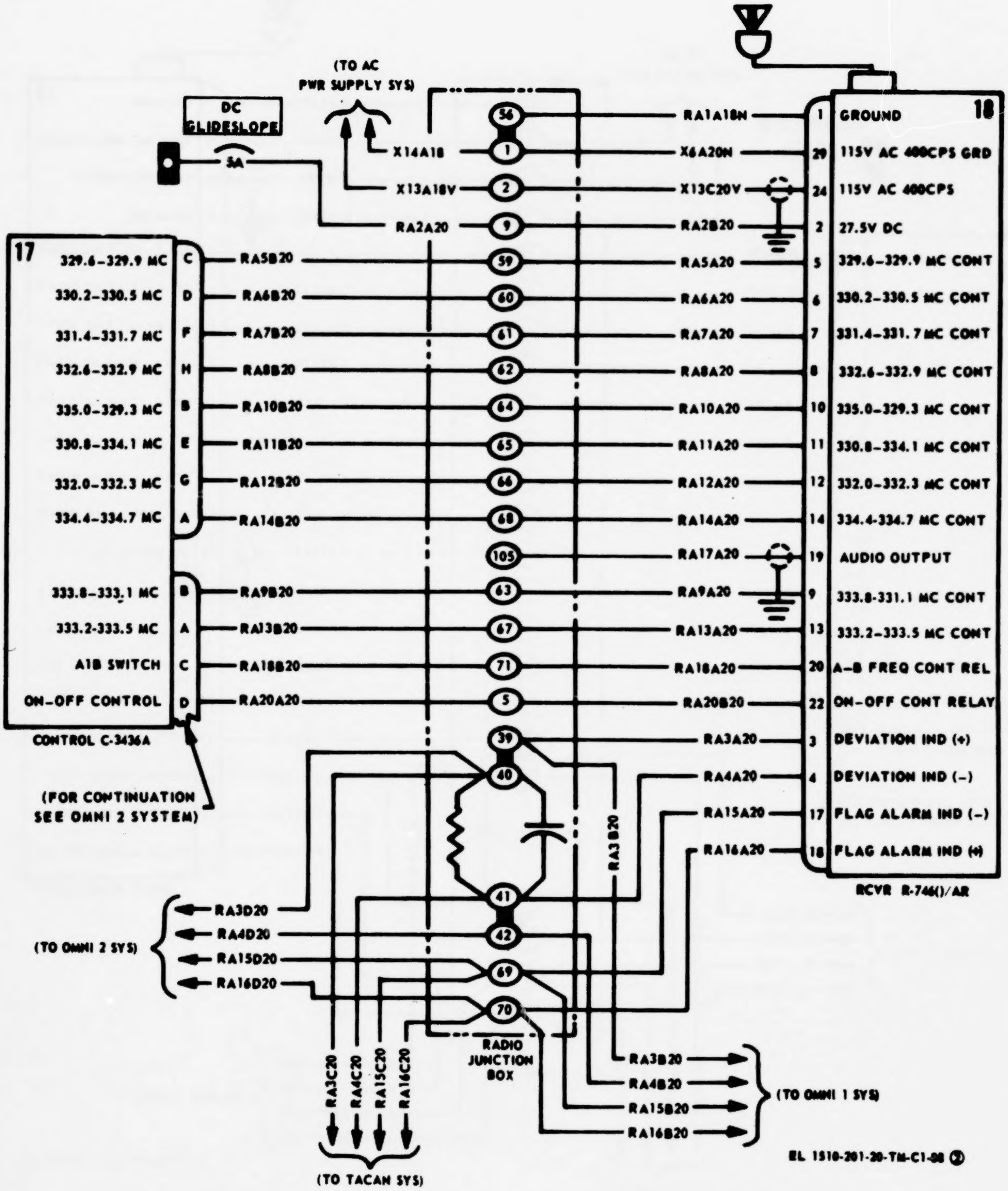

(TO AC PWR SUPPLY SYS)
DC GLIDESLOPE
5A
X14A18
X13A18V
RA2A20
17
329.6-329.9 MC
330.2-330.5 MC
331.4-331.7 MC
332.6-332.9 MC
335.0-329.3 MC
330.8-334.1 MC
332.0-332.3 MC
334.4-334.7 MC
333.8-333.1 MC
333.2-333.5 MC
A1B SWITCH
ON-OFF CONTROL
C
D
F
H
B
E
G
A
B
A
C
D
CONTROL C-3436A
(FOR CONTINUATION SEE OMNI 2 SYSTEM)
RA5B20
RA6B20
RA7B20
RA8B20
RA10B20
RA11B20
RA12B20
RA14B20
RA9B20
RA13B20
RA18B20
RA20A20
56
1
2
9
59
60
61
62
64
65
66
68
105
63
67
71
5
39
40
41
42
69
70
RA1A18N
X6A20N
X13C20V
RA2B20
RA5A20
RA6A20
RA7A20
RA8A20
RA10A20
RA11A20
RA12A20
RA14A20
RA17A20
RA9A20
RA13A20
RA18A20
RA20B20
RA3A20
RA4A20
RA15A20
RA16A20
18
1 GROUND
29 115V AC 400CPS GRD
24 115V AC 400CPS
2 27.5V DC
5 329.6-329.9 MC CONT
6 330.2-330.5 MC CONT
7 331.4-331.7 MC CONT
8 332.6-332.9 MC CONT
10 335.0-329.3 MC CONT
11 330.8-334.1 MC CONT
12 332.0-332.3 MC CONT
14 334.4-334.7 MC CONT
19 AUDIO OUTPUT
9 333.8-331.1 MC CONT
13 333.2-333.5 MC CONT
20 A-B FREQ CONT REL
22 ON-OFF CONT RELAY
3 DEVIATION IND (+)
4 DEVIATION IND (-)
17 FLAG ALARM IND (-)
18 FLAG ALARM IND (+)
RCVR R-746()/AR
RA3B20
RA3D20
RA4D20
RA15D20
RA16D20
(TO OMNI 2 SYS)
RA3C20
RA4C20
RA15C20
RA16C20
(TO TACAN SYS)
RADIO JUNCTION BOX
RA3B20
RA4B20
RA15B20
RA16B20
(TO OMNI 1 SYS)
EL 1510-201-20-TM-C1-08 ②

Figure 4-17②. ILS radio receiving circuit R-746/AR, configuration A, wiring diagram (sheet 2 of 2).

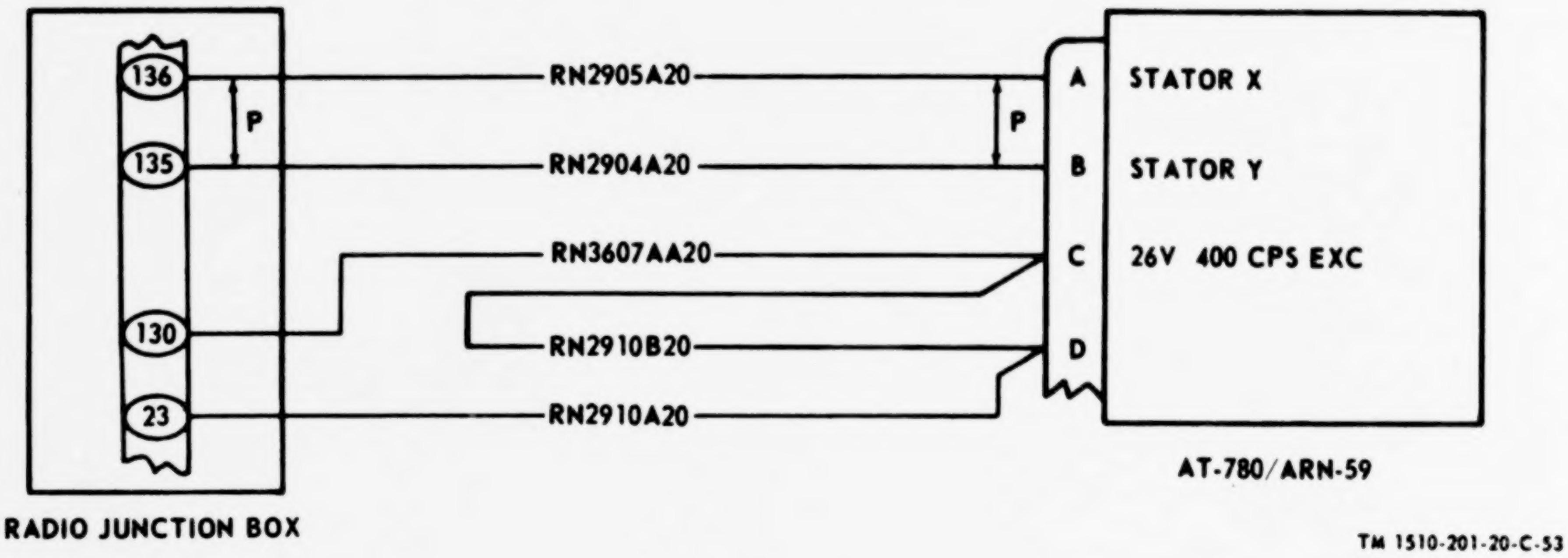

136
135
130
23
P
P
RN2905A20
RN2904A20
RN3607AA20
RN2910B20
RN2910A20
A
B
C
D
STATOR X
STATOR Y
26V 400 CPS EXC
AT-780/ARN-59
RADIO JUNCTION BOX
TM 1510-201-20-C-53

Figure 4-28. ADF navigation facility, configuration C, wiring diagram.

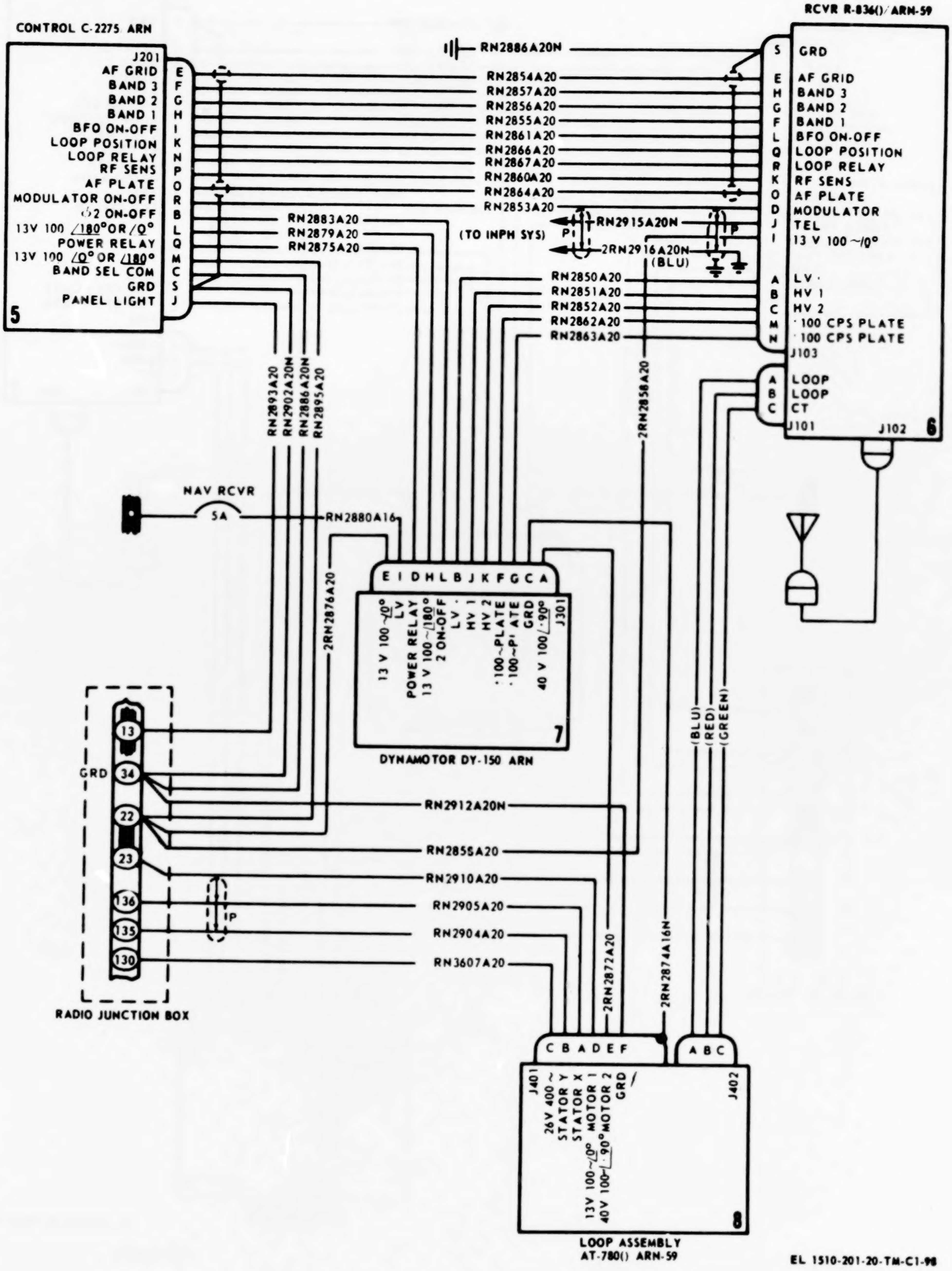

CONTROL C-2275 ARN
J201
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR ON-OFF
ϕ2 ON-OFF
13V 100 /180° OR /0°
POWER RELAY
13V 100 /0° OR /180°
BAND SEL COM
GRD
PANEL LIGHT
E F G H I K N P O R B L Q M C S J
5
RN2886A20N
RN2854A20
RN2857A20
RN2856A20
RN2855A20
RN2861A20
RN2866A20
RN2867A20
RN2860A20
RN2864A20
RN2853A20
RN2883A20
RN2879A20
RN2875A20
(TO INPH SYS)
P1
RN2915A20N
2RN2916A20N
(BLU)
P
RN2850A20
RN2851A20
RN2852A20
RN2862A20
RN2863A20
RCVR R-836()/ARN-59
S E H G F L Q R K O D J I
GRD
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR
TEL
13 V 100 ~/0°
A B C M N
LV
HV 1
HV 2
100 CPS PLATE
100 CPS PLATE
J103
A B C
LOOP
LOOP
CT
J101
J102
6
RN2893A20
RN2902A20N
RN2886A20N
RN2895A20
2RN2858A20
NAV RCVR
5A
RN2880A16
2RN2876A20
E I D H L B J K F G C A
13 V 100~/0°
LV
POWER RELAY
13 V 100~/180°
2 ON-OFF
LV
HV 1
HV 2
100~PLATE
100~PLATE
GRD
40 V 100/-90°
J301
7
DYNAMOTOR DY-150 ARN
(BLU)
(RED)
(GREEN)
GRD
13
34
22
23
136
135
130
P
RADIO JUNCTION BOX
RN2912A20N
RN2858A20
RN2910A20
RN2905A20
RN2904A20
RN3607A20
2RN2872A20
2RN2874A16N
C B A D E F
A B C
J401
26V 400~
STATOR Y
STATOR X
13V 100~/0° MOTOR 1
40V 100/-90° MOTOR 2
GRD
J402
8
LOOP ASSEMBLY
AT-780() ARN-59
EL 1510-201-20-TM-C1-98

Figure 4–28.1 ADF navigation facility, ADF No. 1, configuration A, wiring diagram.

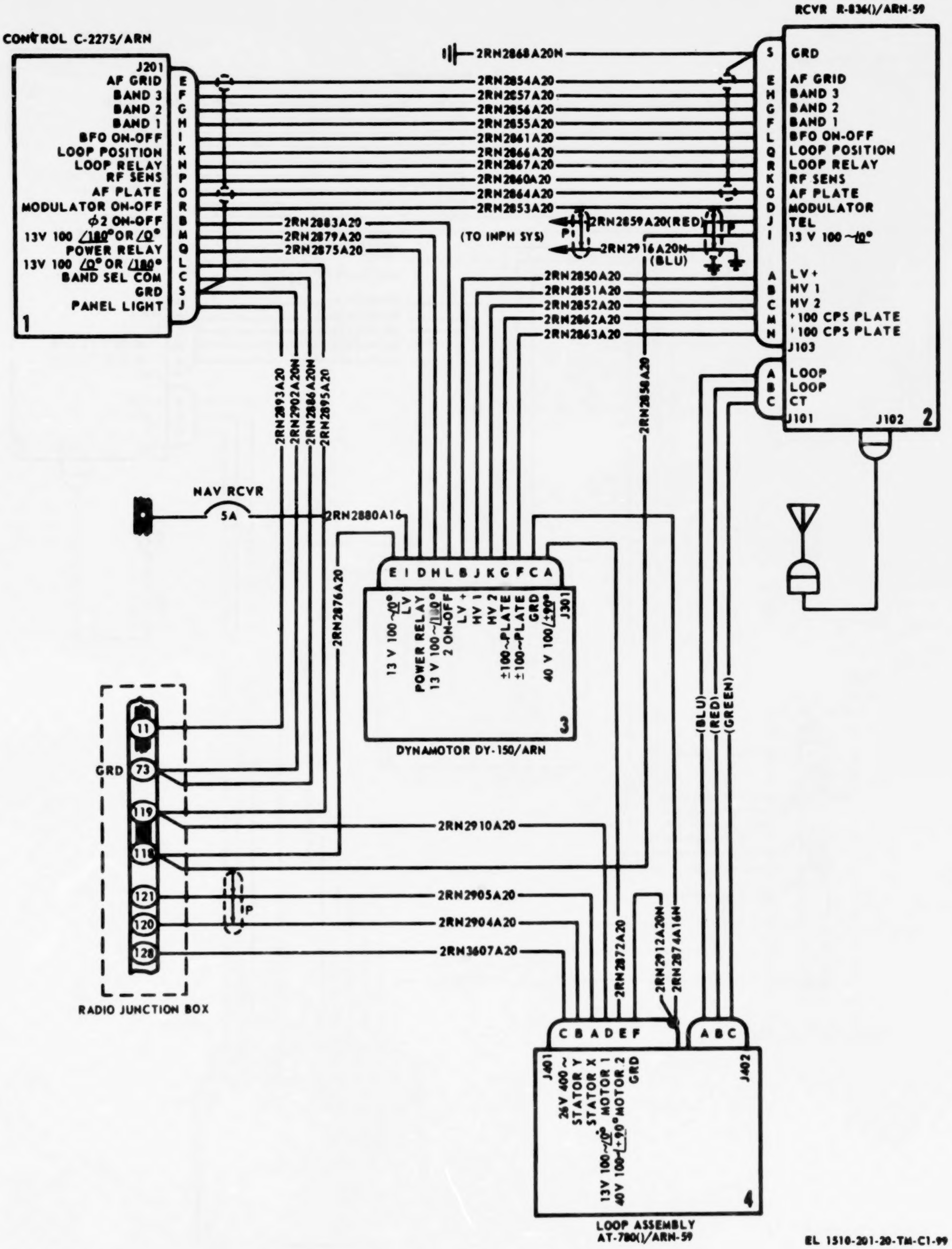
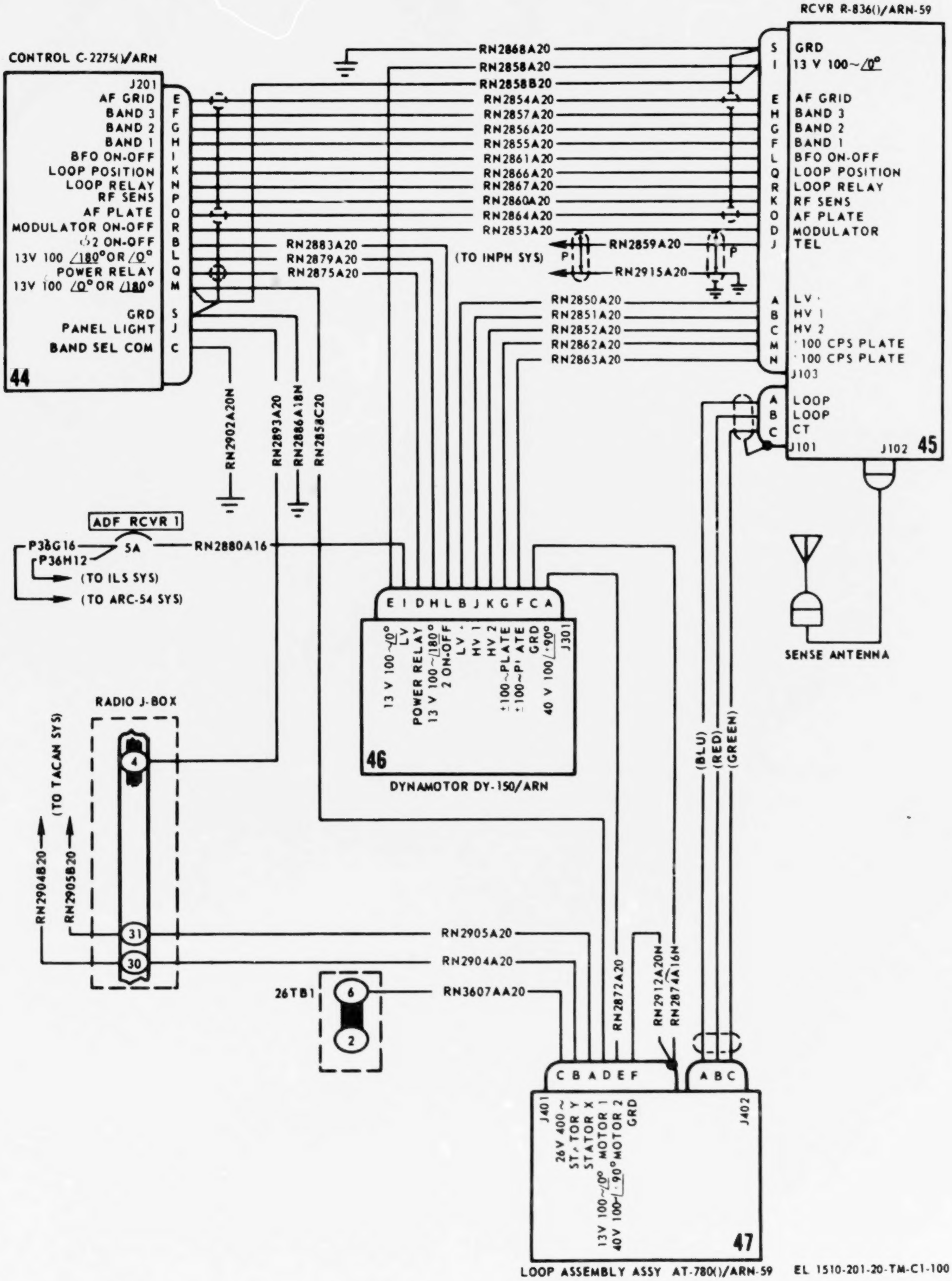
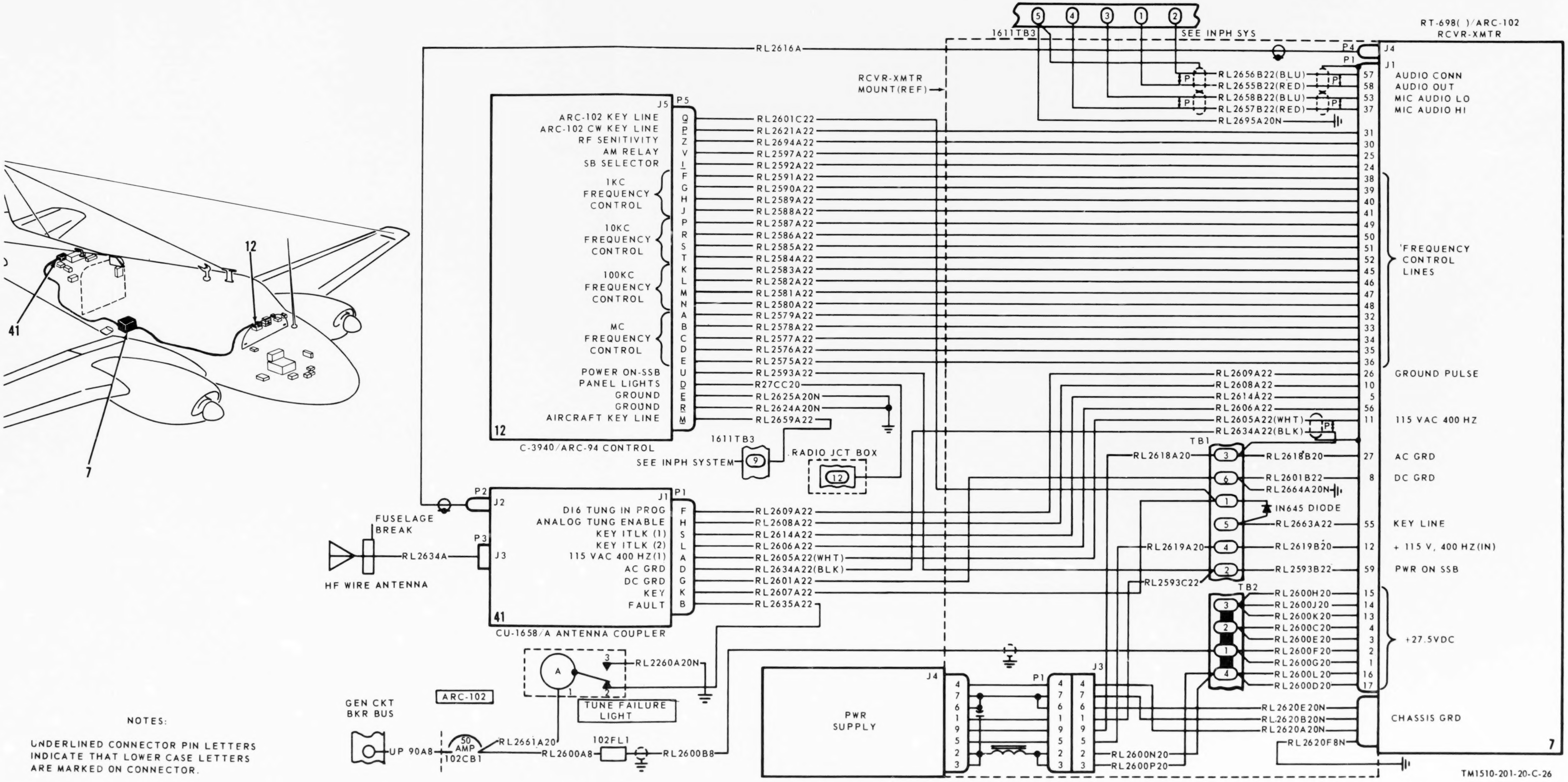

CONTROL C-2275/ARN
J201
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR ON-OFF
ϕ2 ON-OFF
13V 100 ∠180° OR ∠0°
POWER RELAY
13V 100 ∠0° OR ∠180°
BAND SEL COM
GRD
PANEL LIGHT
E F G H I K N P O R B M Q L C S J
1
RCVR R-836()/ARN-59
GRD
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR
TEL
13 V 100 ~ 0°
LV+
HV 1
HV 2
+100 CPS PLATE
+100 CPS PLATE
J103
S E H G F L Q R K O D J I A B C M N
LOOP
LOOP
CT
A B C
J101
J102
2
2RN2868A20N
2RN2854A20
2RN2857A20
2RN2856A20
2RN2855A20
2RN2861A20
2RN2866A20
2RN2867A20
2RN2860A20
2RN2864A20
2RN2853A20
2RN2883A20
2RN2879A20
2RN2875A20
(TO INPH SYS)
P
2RN2859A20(RED)
2RN2916A20N
(BLU)
P
2RN2850A20
2RN2851A20
2RN2852A20
2RN2862A20
2RN2863A20
2RN2893A20
2RN2902A20N
2RN2886A20N
2RN2895A20
2RN2858A20
NAV RCVR
5A
2RN2880A16
2RN2876A20
E I D H L B J K G F C A
13 V 100 ~ 0°
LV
POWER RELAY
13 V 100 ~ 180°
2 ON-OFF
LV +
HV 1
HV 2
±100 ~ PLATE
±100 ~ PLATE
GRD
40 V 100 ∠90°
J301
3
DYNAMOTOR DY-150/ARN
GRD
11
73
119
118
121
120
128
P
RADIO JUNCTION BOX
2RN2910A20
2RN2905A20
2RN2904A20
2RN3607A20
2RN2872A20
2RN2912A20N
2RN2874A16N
(BLU)
(RED)
(GREEN)
C B A D E F
A B C
J401
26V 400 ~
STATOR Y
STATOR X
13V 100 ~ 0° MOTOR 1
40V 100 ∠±90° MOTOR 2
GRD
J402
4
LOOP ASSEMBLY
AT-780()/ARN-59
EL 1510-201-20-TM-C1-99

Figure 4–28.2 ADF navigation facility, ADF No. 2, configuration A, wiring diagram.


RCVR R-836()/ARN-59
CONTROL C-2275()/ARN
J201
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR ON-OFF
φ2 ON-OFF
13V 100 /180° OR /0°
POWER RELAY
13V 100 /0° OR /180°
GRD
PANEL LIGHT
BAND SEL COM
44
E F G H I K N P O R B L Q M S J C
RN2868A20
RN2858A20
RN2858B20
RN2854A20
RN2857A20
RN2856A20
RN2855A20
RN2861A20
RN2866A20
RN2867A20
RN2860A20
RN2864A20
RN2853A20
RN2883A20
RN2879A20
RN2875A20
(TO INPH SYS)
RN2859A20
RN2915A20
P
RN2850A20
RN2851A20
RN2852A20
RN2862A20
RN2863A20
S I E H G F L Q R K O D J A B C M N
GRD
13 V 100~/0°
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR
TEL
LV
HV 1
HV 2
100 CPS PLATE
100 CPS PLATE
J103
A B C
LOOP
LOOP
CT
J101
J102
45
RN2902A20N
RN2893A20
RN2886A18N
RN2858C20
ADF RCVR 1
P36G16
5A
P36H12
RN2880A16
(TO ILS SYS)
(TO ARC-54 SYS)
E I D H L B J K G F C A
13 V 100~/0°
LV
POWER RELAY
13 V 100~/180°
φ2 ON-OFF
LV
HV 1
HV 2
±100~PLATE
±100~PLATE
GRD
40 V 100/-90°
J301
46
DYNAMOTOR DY-150/ARN
SENSE ANTENNA
RADIO J-BOX
4
(TO TACAN SYS)
RN2904B20
RN2905B20
31
30
RN2905A20
RN2904A20
26TB1
6
2
RN3607AA20
RN2872A20
RN2912A20N
RN2874A16N
(BLU)
(RED)
(GREEN)
C B A D E F
A B C
J401
26V 400~
STATOR Y
STATOR X
13V 100~/0° MOTOR 1
40V 100~/-90° MOTOR 2
GRD
J402
47
LOOP ASSEMBLY ASSY AT-780()/ARN-59

EL 1510-201-20-TM-C1-100

Figure 4–29. ADF navigation facility, ADF No. 1, configuration B, wiring diagram.


1611TB3
SEE INPH SYS
RT-698( )/ARC-102
RCVR-XMTR
RL2616A
RCVR-XMTR MOUNT(REF)
P4
J4
P1
J1
RL2656B22(BLU)
RL2655B22(RED)
RL2658B22(BLU)
RL2657B22(RED)
RL2695A20N
AUDIO CONN
AUDIO OUT
MIC AUDIO LO
MIC AUDIO HI
FREQUENCY CONTROL LINES
GROUND PULSE
115 VAC 400 HZ
AC GRD
DC GRD
KEY LINE
+ 115 V, 400 HZ(IN)
PWR ON SSB
+27.5VDC
CHASSIS GRD
J5
P5
ARC-102 KEY LINE
ARC-102 CW KEY LINE
RF SENITIVITY
AM RELAY
SB SELECTOR
1KC FREQUENCY CONTROL
10KC FREQUENCY CONTROL
100KC FREQUENCY CONTROL
MC FREQUENCY CONTROL
POWER ON-SSB
PANEL LIGHTS
GROUND
GROUND
AIRCRAFT KEY LINE
C-3940/ARC-94 CONTROL
RL2601C22
RL2621A22
RL2694A22
RL2597A22
RL2592A22
RL2591A22
RL2590A22
RL2589A22
RL2588A22
RL2587A22
RL2586A22
RL2585A22
RL2584A22
RL2583A22
RL2582A22
RL2581A22
RL2580A22
RL2579A22
RL2578A22
RL2577A22
RL2576A22
RL2575A22
RL2593A22
R27CC20
RL2625A20N
RL2624A20N
RL2659A22
1611TB3
SEE INPH SYSTEM
RADIO JCT BOX
RL2609A22
RL2608A22
RL2614A22
RL2606A22
RL2605A22(WHT)
RL2634A22(BLK)
TB1
RL2618A20
RL2618B20
RL2601B22
RL2664A20N
IN645 DIODE
RL2663A22
RL2619A20
RL2619B20
RL2593C22
RL2593B22
TB2
RL2600H20
RL2600J20
RL2600K20
RL2600C20
RL2600E20
RL2600F20
RL2600G20
RL2600L20
RL2600D20
FUSELAGE BREAK
HF WIRE ANTENNA
RL2634A
P2
J2
P3
J3
J1
P1
DI6 TUNG IN PROG
ANALOG TUNG ENABLE
KEY ITLK (1)
KEY ITLK (2)
115 VAC 400 HZ(1)
AC GRD
DC GRD
KEY
FAULT
RL2601A22
RL2607A22
RL2635A22
CU-1658/A ANTENNA COUPLER
RL2260A20N
TUNE FAILURE LIGHT
ARC-102
GEN CKT BKR BUS
UP 90A8
50 AMP
102CB1
RL2661A20
RL2600A8
102FL1
RL2600B8
PWR SUPPLY
J4
P1
J3
RL2620E20N
RL2620B20N
RL2620A20N
RL2620F8N
RL2600N20
RL2600P20
12
41
7
TM1510-201-20-C-26

NOTES:

UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

Figure 4-1. HF communication facility, configuration A, wiring diagram.

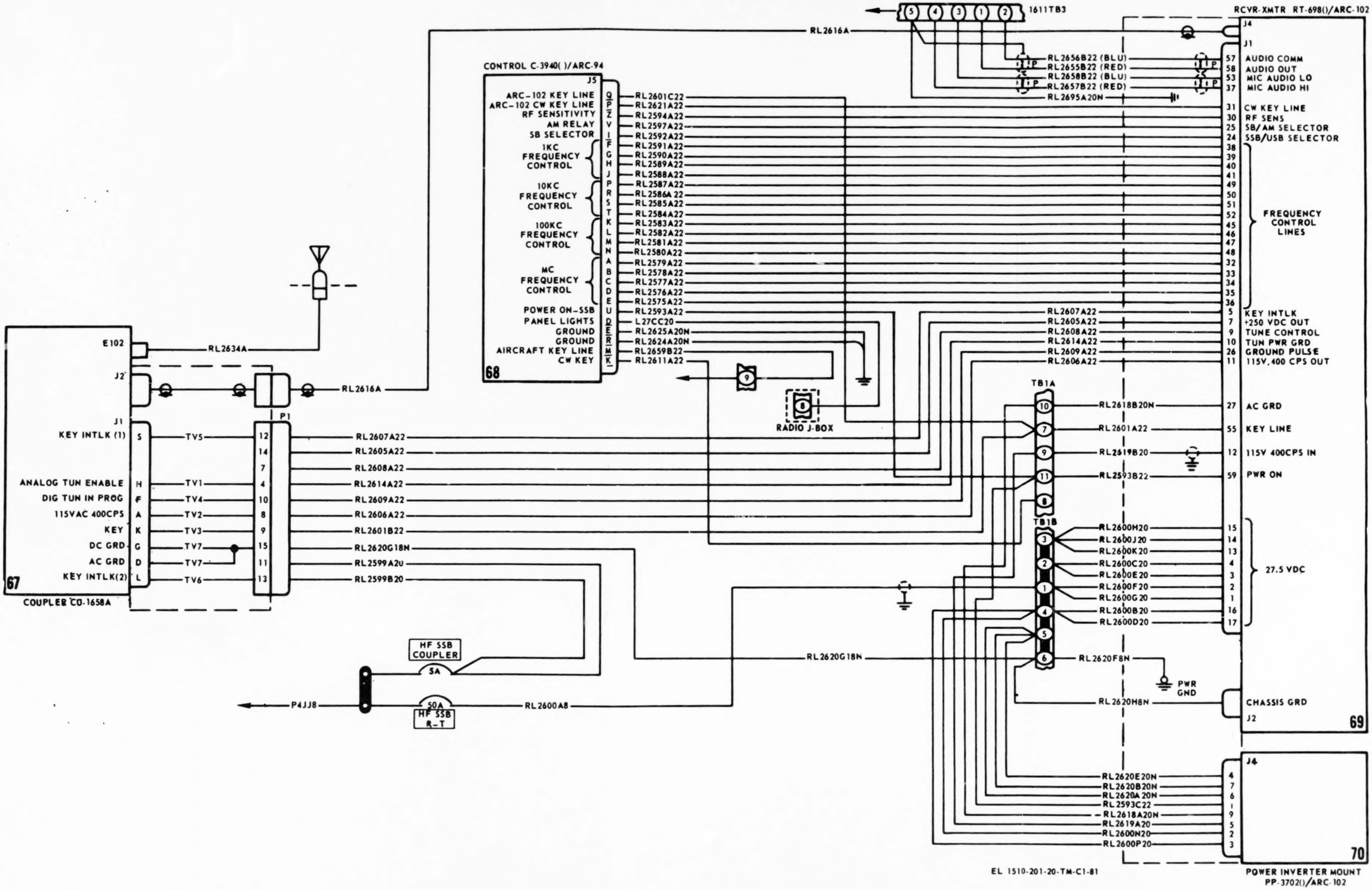
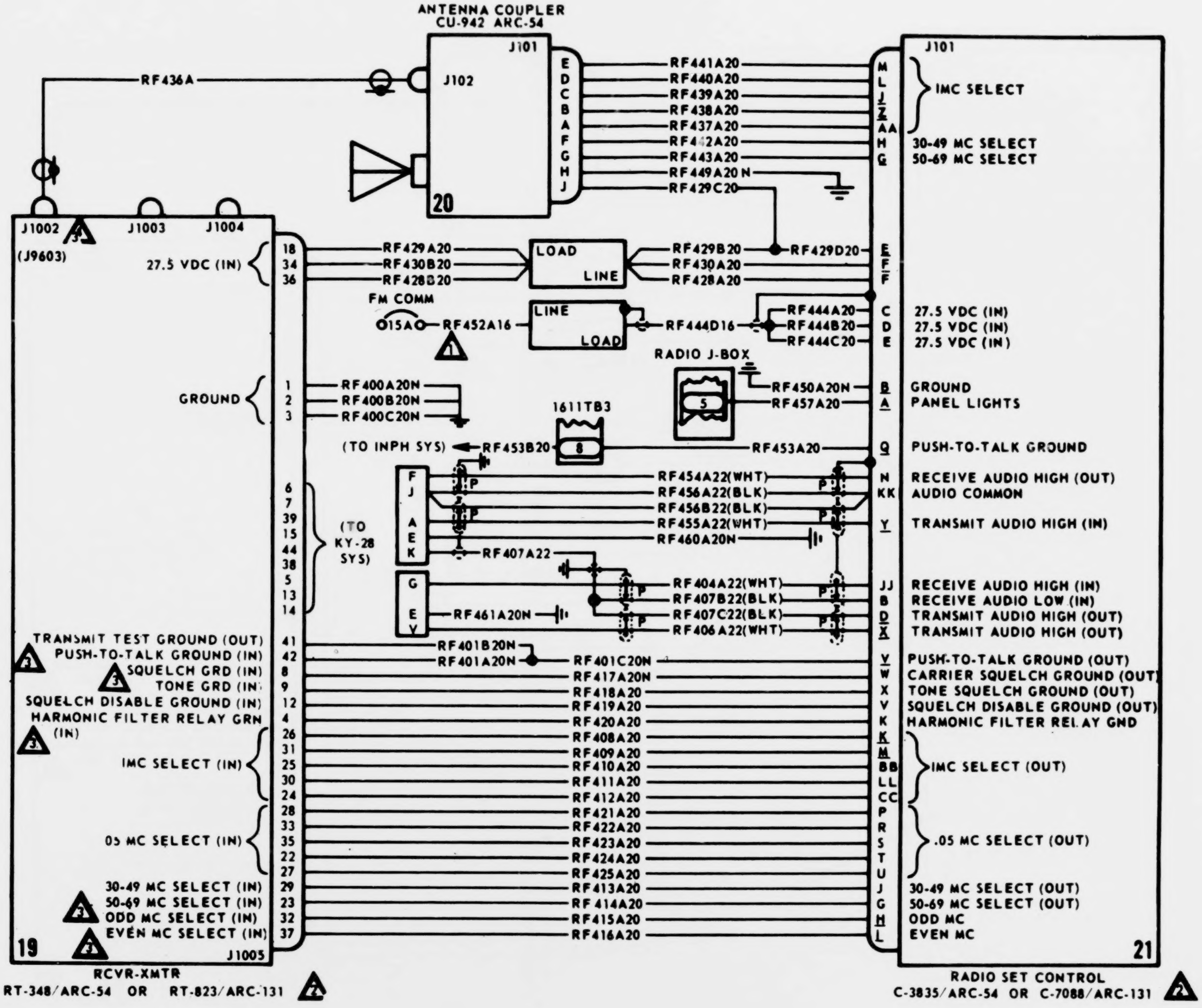

1611TB3
RL2616A
RCVR-XMTR RT-698()/ARC-102
J4
J1
RL2656B22 (BLU)
RL2655B22 (RED)
RL2658B22 (BLU)
RL2657B22 (RED)
RL2695A20N
57 AUDIO COMM
58 AUDIO OUT
53 MIC AUDIO LO
37 MIC AUDIO HI
31 CW KEY LINE
30 RF SENS
25 SB/AM SELECTOR
24 SSB/USB SELECTOR
FREQUENCY CONTROL LINES
5 KEY INTLK
7 +250 VDC OUT
9 TUNE CONTROL
10 TUN PWR GRD
26 GROUND PULSE
11 115V, 400 CPS OUT
CONTROL C-3940( )/ARC-94
J5
ARC-102 KEY LINE
ARC-102 CW KEY LINE
RF SENSITIVITY
AM RELAY
SB SELECTOR
1KC FREQUENCY CONTROL
10KC FREQUENCY CONTROL
100KC FREQUENCY CONTROL
MC FREQUENCY CONTROL
POWER ON-SSB
PANEL LIGHTS
GROUND
GROUND
AIRCRAFT KEY LINE
CW KEY
68
RL2601C22
RL2621A22
RL2594A22
RL2597A22
RL2592A22
RL2591A22
RL2590A22
RL2589A22
RL2588A22
RL2587A22
RL2586A22
RL2585A22
RL2584A22
RL2583A22
RL2582A22
RL2581A22
RL2580A22
RL2579A22
RL2578A22
RL2577A22
RL2576A22
RL2575A22
RL2593A22
L27CC20
RL2625A20N
RL2624A20N
RL2659B22
RL2611A22
RL2607A22
RL2605A22
RL2608A22
RL2614A22
RL2609A22
RL2606A22
RADIO J-BOX
TB1A
TB1B
RL2618B20N
27 AC GRD
RL2601A22
55 KEY LINE
RL2619B20
12 115V 400CPS IN
RL2593B22
59 PWR ON
RL2600H20
RL2600J20
RL2600K20
RL2600C20
RL2600E20
RL2600F20
RL2600G20
RL2600B20
RL2600D20
27.5 VDC
RL2620G18N
RL2620F8N
PWR GND
RL2620H8N
CHASSIS GRD
J2
69
E102
RL2634A
J2
J1
P1
KEY INTLK (1)
ANALOG TUN ENABLE
DIG TUN IN PROG
115VAC 400CPS
KEY
DC GRD
AC GRD
KEY INTLK(2)
TV5
TV1
TV4
TV2
TV3
TV7
TV7
TV6
RL2601B22
RL2620G18N
RL2599A20
RL2599B20
67
COUPLER CU-1658A
HF SSB COUPLER
5A
50A
HF SSB R-T
P4JJ8
RL2600A8
J4
RL2620E20N
RL2620B20N
RL2620A20N
RL2593C22
RL2618A20N
RL2619A20
RL2600N20
RL2600P20
70
POWER INVERTER MOUNT PP-3702()/ARC-102
EL 1510-201-20-TM-C1-81

Figure 4-2. Hf communication facility, configuration B, wiring diagram.


ANTENNA COUPLER
CU-942 ARC-54
J101
J102
20
E D C B A F G H J
RF436A
RF441A20
RF440A20
RF439A20
RF438A20
RF437A20
RF442A20
RF443A20
RF449A20N
RF429C20
J101
M L J Z AA H G
IMC SELECT
30-49 MC SELECT
50-69 MC SELECT
J1002
J1003
J1004
(J9603)
27.5 VDC (IN)
18 34 36
RF429A20
RF430B20
RF428B20
LOAD
LINE
RF429B20
RF430A20
RF428A20
RF429D20
E F F
FM COMM
O15AO
RF452A16
LINE
LOAD
RF444D16
RF444A20
RF444B20
RF444C20
C D E
27.5 VDC (IN)
27.5 VDC (IN)
27.5 VDC (IN)
RADIO J-BOX
5
RF450A20N
RF457A20
B A
GROUND
PANEL LIGHTS
GROUND
1 2 3
RF400A20N
RF400B20N
RF400C20N
1611TB3
8
(TO INPH SYS)
RF453B20
RF453A20
Q
PUSH-TO-TALK GROUND
6 7 39 15 44 38 5 13 14
(TO KY-28 SYS)
F J A E K
G E V
P
RF454A22(WHT)
RF456A22(BLK)
RF456B22(BLK)
RF455A22(WHT)
RF460A20N
RF407A22
N KK Y
RECEIVE AUDIO HIGH (OUT)
AUDIO COMMON
TRANSMIT AUDIO HIGH (IN)
RF461A20N
RF404A22(WHT)
RF407B22(BLK)
RF407C22(BLK)
RF406A22(WHT)
JJ B D X
RECEIVE AUDIO HIGH (IN)
RECEIVE AUDIO LOW (IN)
TRANSMIT AUDIO HIGH (OUT)
TRANSMIT AUDIO HIGH (OUT)
TRANSMIT TEST GROUND (OUT) 41
PUSH-TO-TALK GROUND (IN) 42
SQUELCH GRD (IN) 8
TONE GRD (IN) 9
SQUELCH DISABLE GROUND (IN) 12
HARMONIC FILTER RELAY GRN (IN) 4
IMC SELECT (IN) 26 31 25 30 24
05 MC SELECT (IN) 28 33 35 22 27
30-49 MC SELECT (IN) 29
50-69 MC SELECT (IN) 23
ODD MC SELECT (IN) 32
EVEN MC SELECT (IN) 37
RF401B20N
RF401A20N
RF401C20N
RF417A20N
RF418A20
RF419A20
RF420A20
RF408A20
RF409A20
RF410A20
RF411A20
RF412A20
RF421A20
RF422A20
RF423A20
RF424A20
RF425A20
RF413A20
RF414A20
RF415A20
RF416A20
V PUSH-TO-TALK GROUND (OUT)
W CARRIER SQUELCH GROUND (OUT)
X TONE SQUELCH GROUND (OUT)
V SQUELCH DISABLE GROUND (OUT)
K HARMONIC FILTER RELAY GND
K M BB LL CC IMC SELECT (OUT)
P R S T U .05 MC SELECT (OUT)
J 30-49 MC SELECT (OUT)
G 50-69 MC SELECT (OUT)
H ODD MC
L EVEN MC
19
J1005
RCVR-XMTR
RT-348/ARC-54 OR RT-823/ARC-131
21
RADIO SET CONTROL
C-3835/ARC-54 OR C-7088/ARC-131

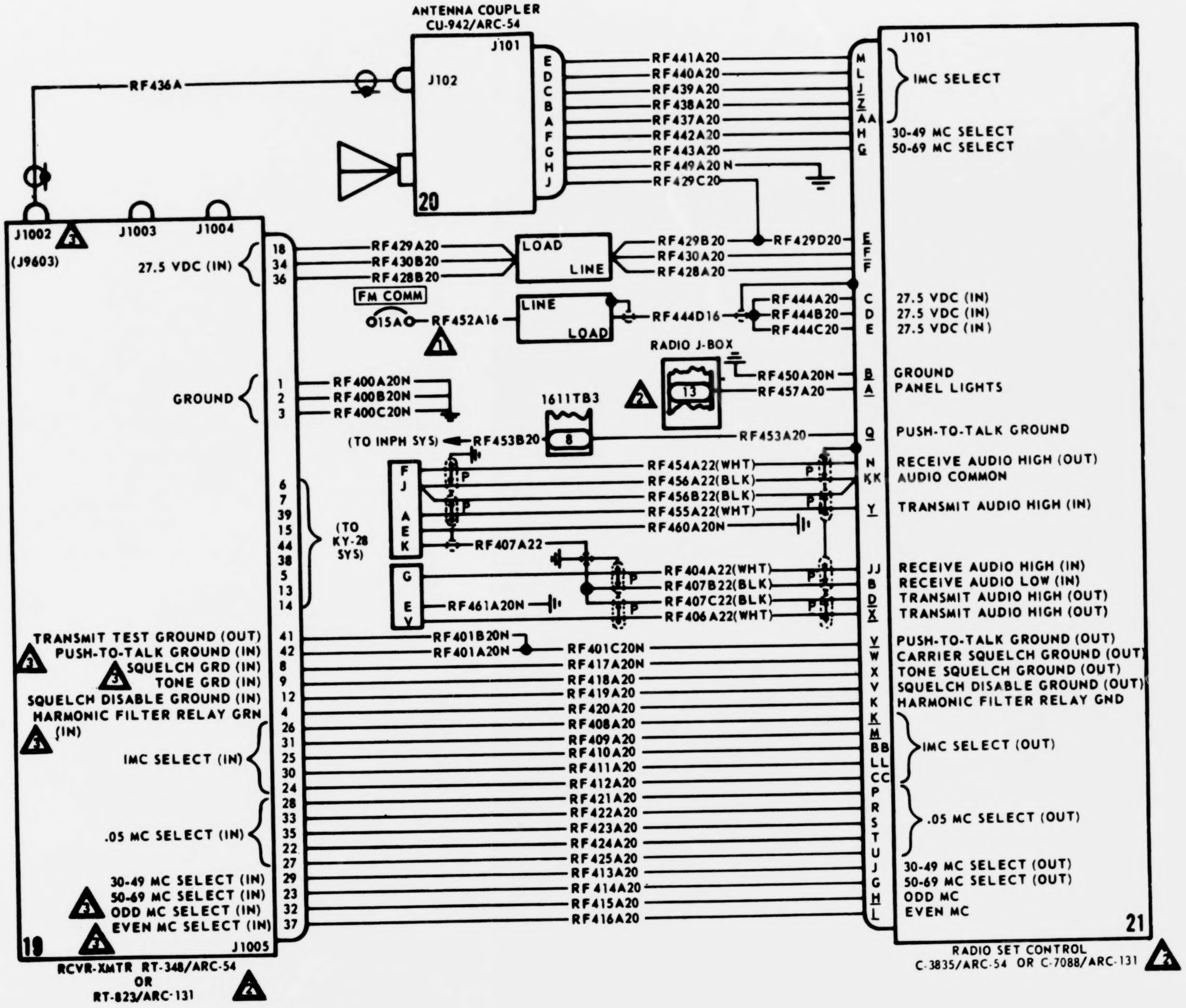
1. CIRCUIT BREAKER NO. 2088 FOR U-8F.

2. RADIO SETS AN ARC-131 AND AN ARC-54 ARE COMPLETELY INTERCHANGEABLE.

3. APPLICABLE AN/ARC-54 INSTALLATION ONLY.

EL 1510-201-20-TM-C1-82

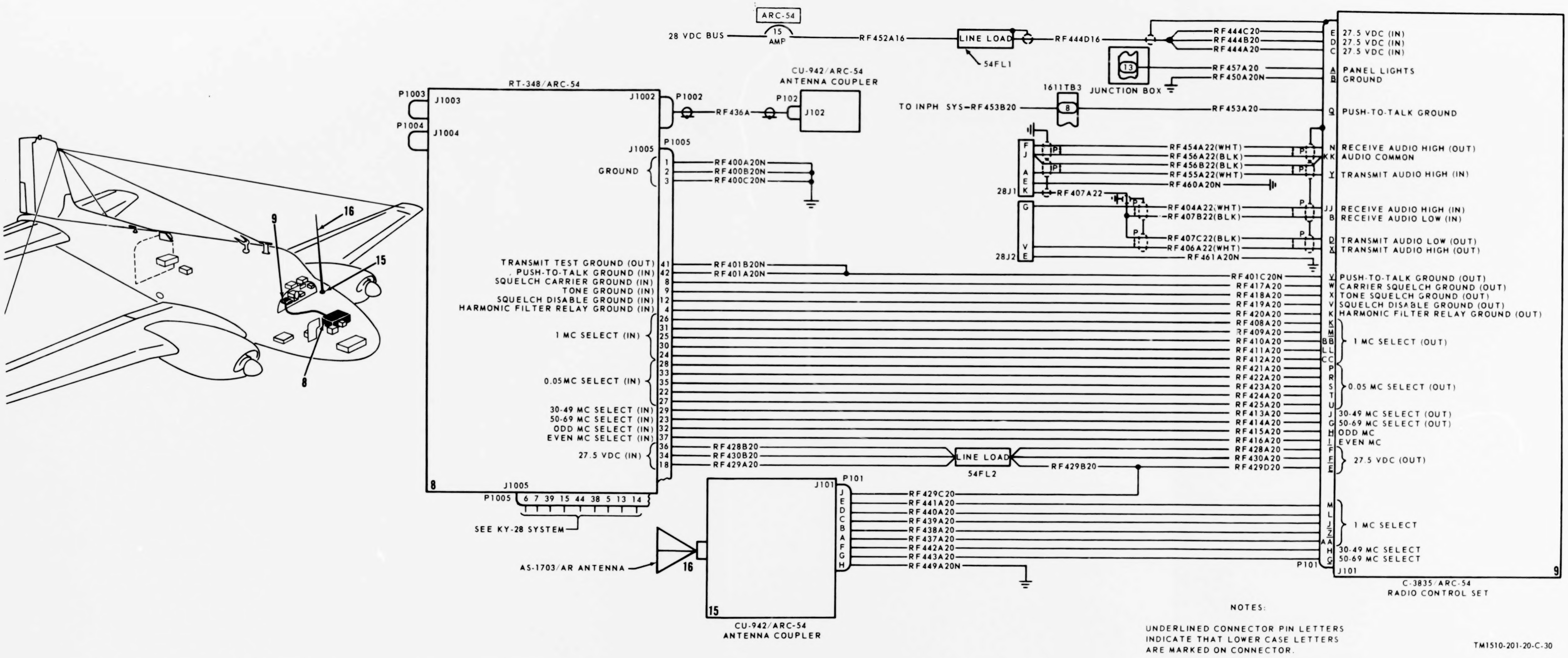
Figure 4-3. Fm communication facility, configuration A, block diagram.


ANTENNA COUPLER
CU-942/ARC-54
J101
J102
20
E D C B A F G H J
RF441A20
RF440A20
RF439A20
RF438A20
RF437A20
RF442A20
RF443A20
RF449A20N
RF429C20
RF436A
J1002
(J9603)
J1003
J1004
27.5 VDC (IN)
18 34 36
RF429A20
RF430B20
RF428B20
LOAD
LINE
RF429B20
RF429D20
RF430A20
RF428A20
FM COMM
15A
RF452A16
LINE
LOAD
RF444D16
RF444A20
RF444B20
RF444C20
RADIO J-BOX
13
RF450A20N
RF457A20
GROUND
1 2 3
RF400A20N
RF400B20N
RF400C20N
1611TB3
8
(TO INPH SYS)
RF453B20
RF453A20
6 7 39 15 44 38 5 13 14
(TO KY-28 SYS)
F J A E K
G E V
RF454A22(WHT)
RF456A22(BLK)
RF456B22(BLK)
RF455A22(WHT)
RF460A20N
RF407A22
RF404A22(WHT)
RF407B22(BLK)
RF407C22(BLK)
RF406A22(WHT)
RF461A20N
P
TRANSMIT TEST GROUND (OUT) 41
PUSH-TO-TALK GROUND (IN) 42
SQUELCH GRD (IN) 8
TONE GRD (IN) 9
SQUELCH DISABLE GROUND (IN) 12
HARMONIC FILTER RELAY GRN (IN) 4
IMC SELECT (IN) 26 31 25 30 24
.05 MC SELECT (IN) 28 33 35 22 27
30-49 MC SELECT (IN) 29
50-69 MC SELECT (IN) 23
ODD MC SELECT (IN) 32
EVEN MC SELECT (IN) 37
RF401B20N
RF401A20N
RF401C20N
RF417A20N
RF418A20
RF419A20
RF420A20
RF408A20
RF409A20
RF410A20
RF411A20
RF412A20
RF421A20
RF422A20
RF423A20
RF424A20
RF425A20
RF413A20
RF414A20
RF415A20
RF416A20
19
J1005
RCVR-XMTR RT-348/ARC-54
OR
RT-823/ARC-131
J101
M L J Z AA H G
IMC SELECT
30-49 MC SELECT
50-69 MC SELECT
E F F
C D E
27.5 VDC (IN)
27.5 VDC (IN)
27.5 VDC (IN)
B GROUND
A PANEL LIGHTS
Q PUSH-TO-TALK GROUND
N RECEIVE AUDIO HIGH (OUT)
KK AUDIO COMMON
Y TRANSMIT AUDIO HIGH (IN)
JJ RECEIVE AUDIO HIGH (IN)
B RECEIVE AUDIO LOW (IN)
D TRANSMIT AUDIO HIGH (OUT)
X TRANSMIT AUDIO HIGH (OUT)
V PUSH-TO-TALK GROUND (OUT)
W CARRIER SQUELCH GROUND (OUT)
X TONE SQUELCH GROUND (OUT)
V SQUELCH DISABLE GROUND (OUT)
K HARMONIC FILTER RELAY GND
K M BB LL CC IMC SELECT (OUT)
P R S T U .05 MC SELECT (OUT)
J 30-49 MC SELECT (OUT)
G 50-69 MC SELECT (OUT)
H ODD MC
L EVEN MC
21
RADIO SET CONTROL
C-3835/ARC-54 OR C-7088/ARC-131

1. CIRCUIT BREAKER NO. 2088 FOR U-8F.
2. RADIO SETS AN/ARC-131 AND AN/ARC-54 ARE COMPLETELY INTERCHANGEABLE.
3. APPLICABLE AN/ARC-54 INSTALLATION ONLY.

EL 1510-201-20-TM-C1-85

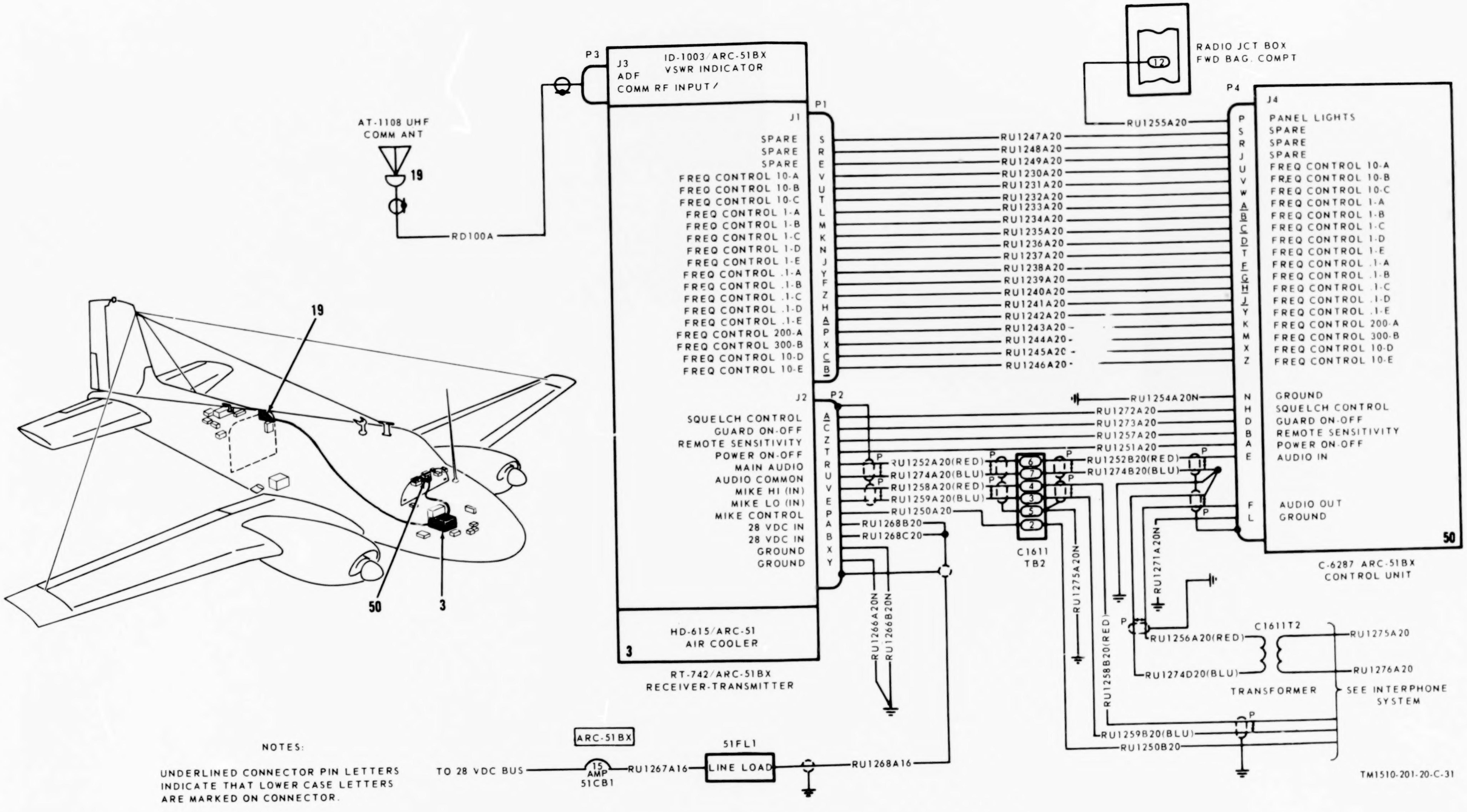
Figure 4-4. Fm communication facility, configuration B, block diagram.


ARC-54
15 AMP
28 VDC BUS
RF452A16
LINE LOAD
54FL1
RF444D16
RF444C20
RF444B20
RF444A20
RF457A20
RF450A20N
13
JUNCTION BOX
1611TB3
8
TO INPH SYS–RF453B20
RF453A20
RT-348/ARC-54
P1003
J1003
P1004
J1004
J1002
P1002
RF436A
P102
J102
CU-942/ARC-54
ANTENNA COUPLER
J1005
P1005
GROUND
RF400A20N
RF400B20N
RF400C20N
TRANSMIT TEST GROUND (OUT) 41
PUSH-TO-TALK GROUND (IN) 42
SQUELCH CARRIER GROUND (IN) 8
TONE GROUND (IN) 9
SQUELCH DISABLE GROUND (IN) 12
HARMONIC FILTER RELAY GROUND (IN) 4
1 MC SELECT (IN) 26 31 25 30 24 28
0.05MC SELECT (IN) 33 35 22 27
30-49 MC SELECT (IN) 29
50-69 MC SELECT (IN) 23
ODD MC SELECT (IN) 32
EVEN MC SELECT (IN) 37
27.5 VDC (IN) 36 34 18
RF401B20N
RF401A20N
RF428B20
RF430B20
RF429A20
LINE LOAD
54FL2
RF429B20
8
J1005
P1005 6 7 39 15 44 38 5 13 14
SEE KY-28 SYSTEM
AS-1703/AR ANTENNA
16
J101
P101
J E D C B A F G H
RF429C20
RF441A20
RF440A20
RF439A20
RF438A20
RF437A20
RF442A20
RF443A20
RF449A20N
15
CU-942/ARC-54
ANTENNA COUPLER
28J1
F J A E K
RF454A22(WHT)
RF456A22(BLK)
RF456B22(BLK)
RF455A22(WHT)
RF460A20N
RF407A22
28J2
G V E
RF404A22(WHT)
RF407B22(BLK)
RF407C22(BLK)
RF406A22(WHT)
RF461A20N
P
RF401C20N
RF417A20
RF418A20
RF419A20
RF420A20
RF408A20
RF409A20
RF410A20
RF411A20
RF412A20
RF421A20
RF422A20
RF423A20
RF424A20
RF425A20
RF413A20
RF414A20
RF415A20
RF416A20
RF428A20
RF430A20
RF429D20
E 27.5 VDC (IN)
D 27.5 VDC (IN)
C 27.5 VDC (IN)
A PANEL LIGHTS
B GROUND
Q PUSH-TO-TALK GROUND
N RECEIVE AUDIO HIGH (OUT)
K AUDIO COMMON
Y TRANSMIT AUDIO HIGH (IN)
JJ RECEIVE AUDIO HIGH (IN)
B RECEIVE AUDIO LOW (IN)
D TRANSMIT AUDIO LOW (OUT)
X TRANSMIT AUDIO HIGH (OUT)
Y PUSH-TO-TALK GROUND (OUT)
W CARRIER SQUELCH GROUND (OUT)
X TONE SQUELCH GROUND (OUT)
V SQUELCH DISABLE GROUND (OUT)
K HARMONIC FILTER RELAY GROUND (OUT)
K M BB LL CC 1 MC SELECT (OUT)
P R S T U 0.05 MC SELECT (OUT)
J 30-49 MC SELECT (OUT)
G 50-69 MC SELECT (OUT)
H ODD MC
I EVEN MC
F F E 27.5 VDC (OUT)
M L J Z AA 1 MC SELECT
H 30-49 MC SELECT
G 50-69 MC SELECT
P101
J101
9
C-3835/ARC-54
RADIO CONTROL SET
9
16
15
8
TM1510-201-20-C-30

NOTES:

UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

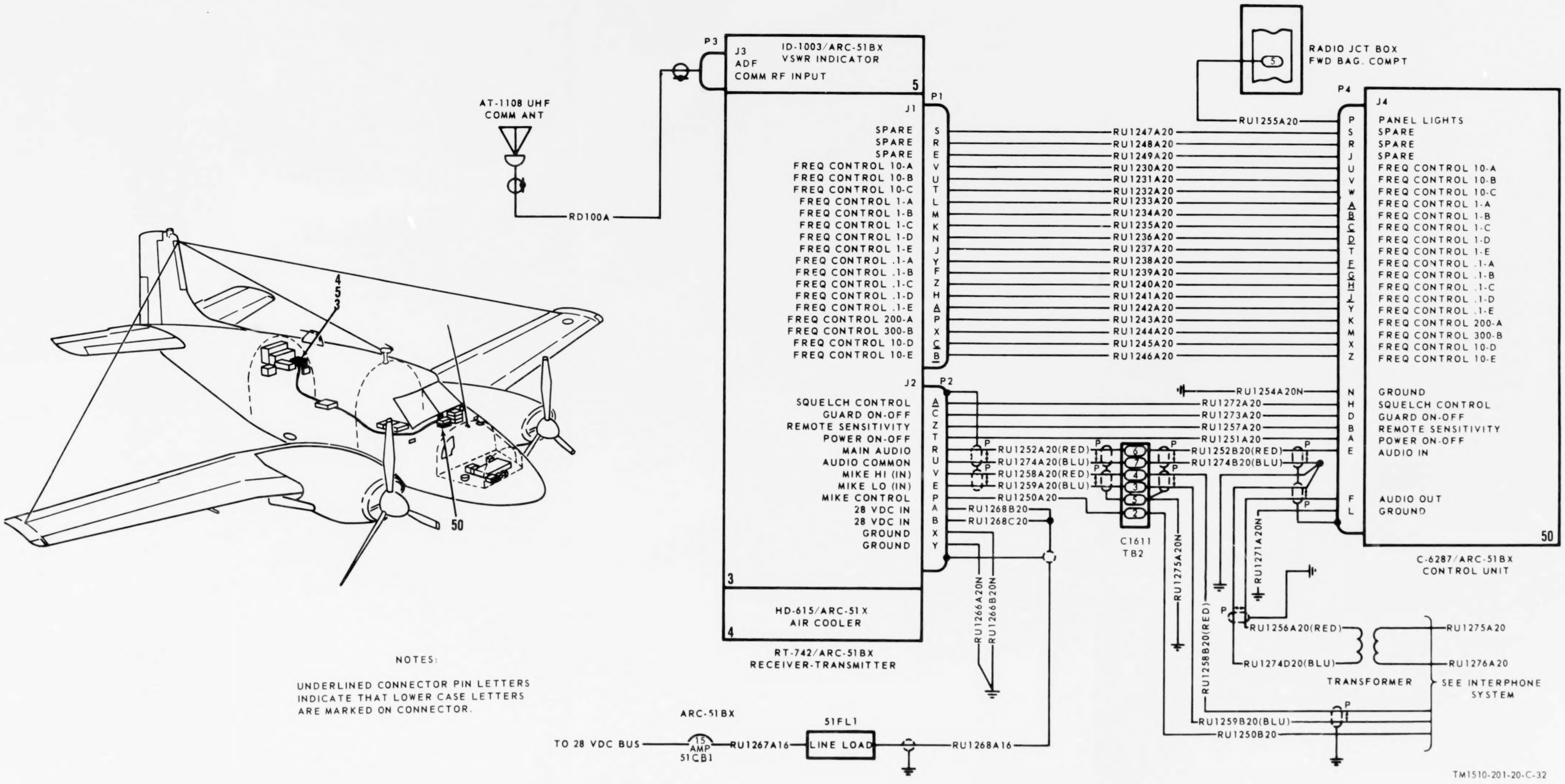
Figure 4-5. FM communication facility, configuration C, wiring diagram.


AT-1108 UHF COMM ANT
19
RD100A
P3
J3
ADF
COMM RF INPUT
ID-1003/ARC-51BX VSWR INDICATOR
RADIO JCT BOX FWD BAG. COMPT
12
RU1255A20
P1
J1
SPARE
SPARE
SPARE
FREQ CONTROL 10-A
FREQ CONTROL 10-B
FREQ CONTROL 10-C
FREQ CONTROL 1-A
FREQ CONTROL 1-B
FREQ CONTROL 1-C
FREQ CONTROL 1-D
FREQ CONTROL 1-E
FREQ CONTROL .1-A
FREQ CONTROL .1-B
FREQ CONTROL .1-C
FREQ CONTROL .1-D
FREQ CONTROL .1-E
FREQ CONTROL 200-A
FREQ CONTROL 300-B
FREQ CONTROL 10-D
FREQ CONTROL 10-E
S R E V U T L M K N J Y F Z H A P X C B
RU1247A20
RU1248A20
RU1249A20
RU1230A20
RU1231A20
RU1232A20
RU1233A20
RU1234A20
RU1235A20
RU1236A20
RU1237A20
RU1238A20
RU1239A20
RU1240A20
RU1241A20
RU1242A20
RU1243A20
RU1244A20
RU1245A20
RU1246A20
P4
J4
P S R J U V W A B C D T E F G H J Y K M X Z
PANEL LIGHTS
SPARE
SPARE
SPARE
FREQ CONTROL 10-A
FREQ CONTROL 10-B
FREQ CONTROL 10-C
FREQ CONTROL 1-A
FREQ CONTROL 1-B
FREQ CONTROL 1-C
FREQ CONTROL 1-D
FREQ CONTROL 1-E
FREQ CONTROL .1-A
FREQ CONTROL .1-B
FREQ CONTROL .1-C
FREQ CONTROL .1-D
FREQ CONTROL .1-E
FREQ CONTROL 200-A
FREQ CONTROL 300-B
FREQ CONTROL 10-D
FREQ CONTROL 10-E
J2
P2
SQUELCH CONTROL
GUARD ON-OFF
REMOTE SENSITIVITY
POWER ON-OFF
MAIN AUDIO
AUDIO COMMON
MIKE HI (IN)
MIKE LO (IN)
MIKE CONTROL
28 VDC IN
28 VDC IN
GROUND
GROUND
A C Z T R U V E P A B X Y
RU1254A20N
RU1272A20
RU1273A20
RU1257A20
RU1251A20
RU1252A20(RED)
RU1274A20(BLU)
RU1258A20(RED)
RU1259A20(BLU)
RU1250A20
RU1268B20
RU1268C20
RU1252B20(RED)
RU1274B20(BLU)
P
6 7 4 3 5 2
C1611 TB2
N H D B A E F L
GROUND
SQUELCH CONTROL
GUARD ON-OFF
REMOTE SENSITIVITY
POWER ON-OFF
AUDIO IN
AUDIO OUT
GROUND
50
C-6287 ARC-51BX CONTROL UNIT
RU1275A20N
RU1271A20N
RU1266A20N
RU1266B20N
RU1258B20(RED)
RU1256A20(RED)
RU1274D20(BLU)
C1611T2
TRANSFORMER
RU1275A20
RU1276A20
SEE INTERPHONE SYSTEM
RU1259B20(BLU)
RU1250B20
HD-615/ARC-51 AIR COOLER
3
RT-742/ARC-51BX RECEIVER-TRANSMITTER
19
50
3
ARC-51BX
TO 28 VDC BUS
15 AMP
51CB1
RU1267A16
51FL1
LINE LOAD
RU1268A16
TM1510-201-20-C-31

NOTES:

UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

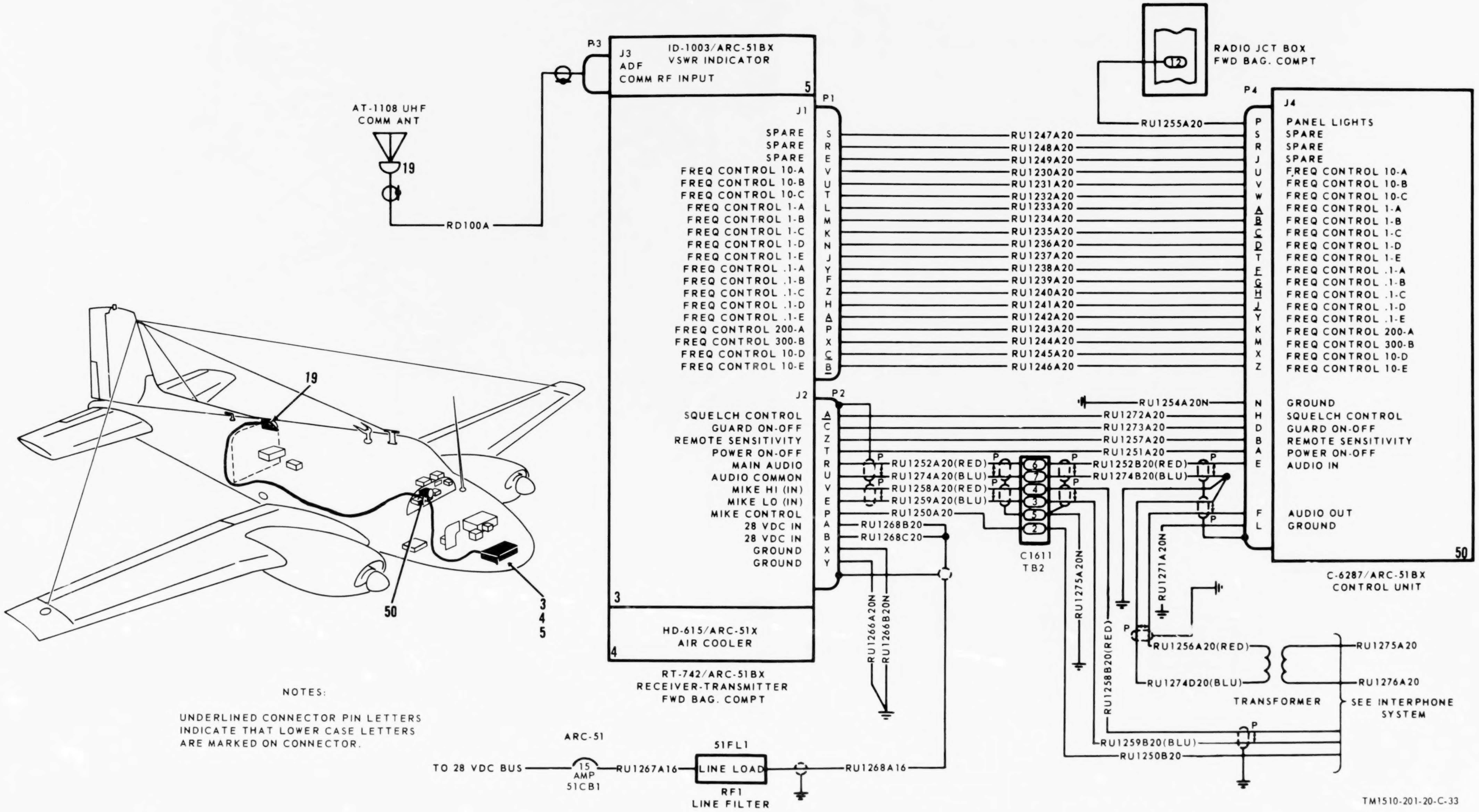
Figure 4–6. Uhf command facility, configuration A, wiring diagram.


AT-1108 UHF
COMM ANT
RD100A
P3
J3
ADF
COMM RF INPUT
ID-1003/ARC-51BX
VSWR INDICATOR
5
J1
P1
SPARE S
SPARE R
SPARE E
FREQ CONTROL 10-A V
FREQ CONTROL 10-B U
FREQ CONTROL 10-C T
FREQ CONTROL 1-A L
FREQ CONTROL 1-B M
FREQ CONTROL 1-C K
FREQ CONTROL 1-D N
FREQ CONTROL 1-E J
FREQ CONTROL .1-A Y
FREQ CONTROL .1-B F
FREQ CONTROL .1-C Z
FREQ CONTROL .1-D H
FREQ CONTROL .1-E A
FREQ CONTROL 200-A P
FREQ CONTROL 300-B X
FREQ CONTROL 10-D C
FREQ CONTROL 10-E B
RU1247A20
RU1248A20
RU1249A20
RU1230A20
RU1231A20
RU1232A20
RU1233A20
RU1234A20
RU1235A20
RU1236A20
RU1237A20
RU1238A20
RU1239A20
RU1240A20
RU1241A20
RU1242A20
RU1243A20
RU1244A20
RU1245A20
RU1246A20
J2
P2
SQUELCH CONTROL A
GUARD ON-OFF C
REMOTE SENSITIVITY Z
POWER ON-OFF T
MAIN AUDIO R
AUDIO COMMON U
MIKE HI (IN) V
MIKE LO (IN) E
MIKE CONTROL P
28 VDC IN A
28 VDC IN B
GROUND X
GROUND Y
3
HD-615/ARC-51X
AIR COOLER
4
RT-742/ARC-51BX
RECEIVER-TRANSMITTER
RU1254A20N
RU1272A20
RU1273A20
RU1257A20
RU1251A20
P
RU1252A20(RED)
RU1274A20(BLU)
RU1258A20(RED)
RU1259A20(BLU)
RU1250A20
RU1268B20
RU1268C20
RU1266A20N
RU1266B20N
6
7
4
3
5
2
C1611
TB2
RU1252B20(RED)
RU1274B20(BLU)
RU1275A20N
RU1258B20(RED)
RU1271A20N
RU1256A20(RED)
RU1274D20(BLU)
TRANSFORMER
RU1275A20
RU1276A20
SEE INTERPHONE
SYSTEM
RU1259B20(BLU)
RU1250B20
RADIO JCT BOX
FWD BAG. COMPT
RU1255A20
P4
J4
P PANEL LIGHTS
S SPARE
R SPARE
J SPARE
U FREQ CONTROL 10-A
V FREQ CONTROL 10-B
W FREQ CONTROL 10-C
A FREQ CONTROL 1-A
B FREQ CONTROL 1-B
C FREQ CONTROL 1-C
D FREQ CONTROL 1-D
T FREQ CONTROL 1-E
E FREQ CONTROL .1-A
G FREQ CONTROL .1-B
H FREQ CONTROL .1-C
J FREQ CONTROL .1-D
Y FREQ CONTROL .1-E
K FREQ CONTROL 200-A
M FREQ CONTROL 300-B
X FREQ CONTROL 10-D
Z FREQ CONTROL 10-E
N GROUND
H SQUELCH CONTROL
D GUARD ON-OFF
B REMOTE SENSITIVITY
A POWER ON-OFF
E AUDIO IN
F AUDIO OUT
L GROUND
50
C-6287/ARC-51BX
CONTROL UNIT
4
5
3
50
ARC-51BX
TO 28 VDC BUS
15 AMP
51CB1
RU1267A16
51FL1
LINE LOAD
RU1268A16
TM1510-201-20-C-32

NOTES:

UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

Figure 4-7. Uhf command facility, configuration B, wiring diagram.

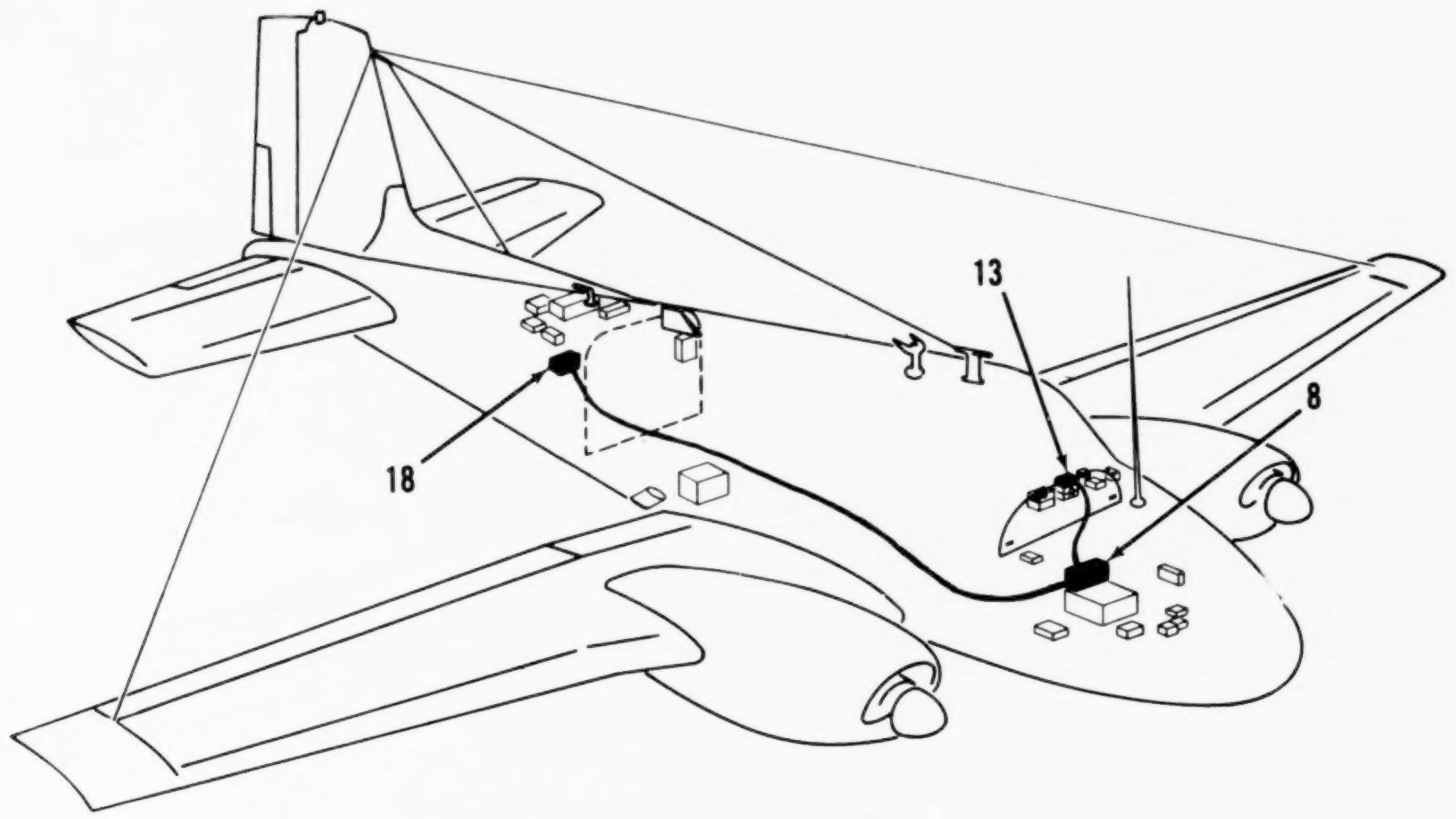

AT-1108 UHF COMM ANT
19
RD100A
P3
J3
ADF
COMM RF INPUT
ID-1003/ARC-51BX VSWR INDICATOR
5
P1
J1
SPARE
SPARE
SPARE
FREQ CONTROL 10-A
FREQ CONTROL 10-B
FREQ CONTROL 10-C
FREQ CONTROL 1-A
FREQ CONTROL 1-B
FREQ CONTROL 1-C
FREQ CONTROL 1-D
FREQ CONTROL 1-E
FREQ CONTROL .1-A
FREQ CONTROL .1-B
FREQ CONTROL .1-C
FREQ CONTROL .1-D
FREQ CONTROL .1-E
FREQ CONTROL 200-A
FREQ CONTROL 300-B
FREQ CONTROL 10-D
FREQ CONTROL 10-E
S R E V U T L M K N J Y F Z H A P X C B
RU1247A20
RU1248A20
RU1249A20
RU1230A20
RU1231A20
RU1232A20
RU1233A20
RU1234A20
RU1235A20
RU1236A20
RU1237A20
RU1238A20
RU1239A20
RU1240A20
RU1241A20
RU1242A20
RU1243A20
RU1244A20
RU1245A20
RU1246A20
J2
P2
SQUELCH CONTROL
GUARD ON-OFF
REMOTE SENSITIVITY
POWER ON-OFF
MAIN AUDIO
AUDIO COMMON
MIKE HI (IN)
MIKE LO (IN)
MIKE CONTROL
28 VDC IN
28 VDC IN
GROUND
GROUND
A C Z T R U V E P A B X Y
3
4
HD-615/ARC-51X AIR COOLER
RT-742/ARC-51BX RECEIVER-TRANSMITTER FWD BAG. COMPT
RU1252A20(RED)
RU1274A20(BLU)
RU1258A20(RED)
RU1259A20(BLU)
RU1250A20
RU1268B20
RU1268C20
RU1266A20N
RU1266B20N
P
6 7 4 3 5 2
C1611 TB2
RU1275A20N
RU1258B20(RED)
RU1271A20N
RU1252B20(RED)
RU1274B20(BLU)
RU1254A20N
RU1272A20
RU1273A20
RU1257A20
RU1251A20
RU1255A20
RADIO JCT BOX FWD BAG. COMPT
12
P4
J4
P S R J U V W A B C D T F G H J Y K M X Z
PANEL LIGHTS
SPARE
SPARE
SPARE
FREQ CONTROL 10-A
FREQ CONTROL 10-B
FREQ CONTROL 10-C
FREQ CONTROL 1-A
FREQ CONTROL 1-B
FREQ CONTROL 1-C
FREQ CONTROL 1-D
FREQ CONTROL 1-E
FREQ CONTROL .1-A
FREQ CONTROL .1-B
FREQ CONTROL .1-C
FREQ CONTROL .1-D
FREQ CONTROL .1-E
FREQ CONTROL 200-A
FREQ CONTROL 300-B
FREQ CONTROL 10-D
FREQ CONTROL 10-E
N H D B A E
GROUND
SQUELCH CONTROL
GUARD ON-OFF
REMOTE SENSITIVITY
POWER ON-OFF
AUDIO IN
F L
AUDIO OUT
GROUND
50
C-6287/ARC-51BX CONTROL UNIT
RU1256A20(RED)
RU1274D20(BLU)
TRANSFORMER
RU1275A20
RU1276A20
SEE INTERPHONE SYSTEM
RU1259B20(BLU)
RU1250B20
ARC-51
TO 28 VDC BUS
15 AMP
51CB1
RU1267A16
51FL1
LINE LOAD
RF1 LINE FILTER
RU1268A16
19
50
3
4
5

NOTES:

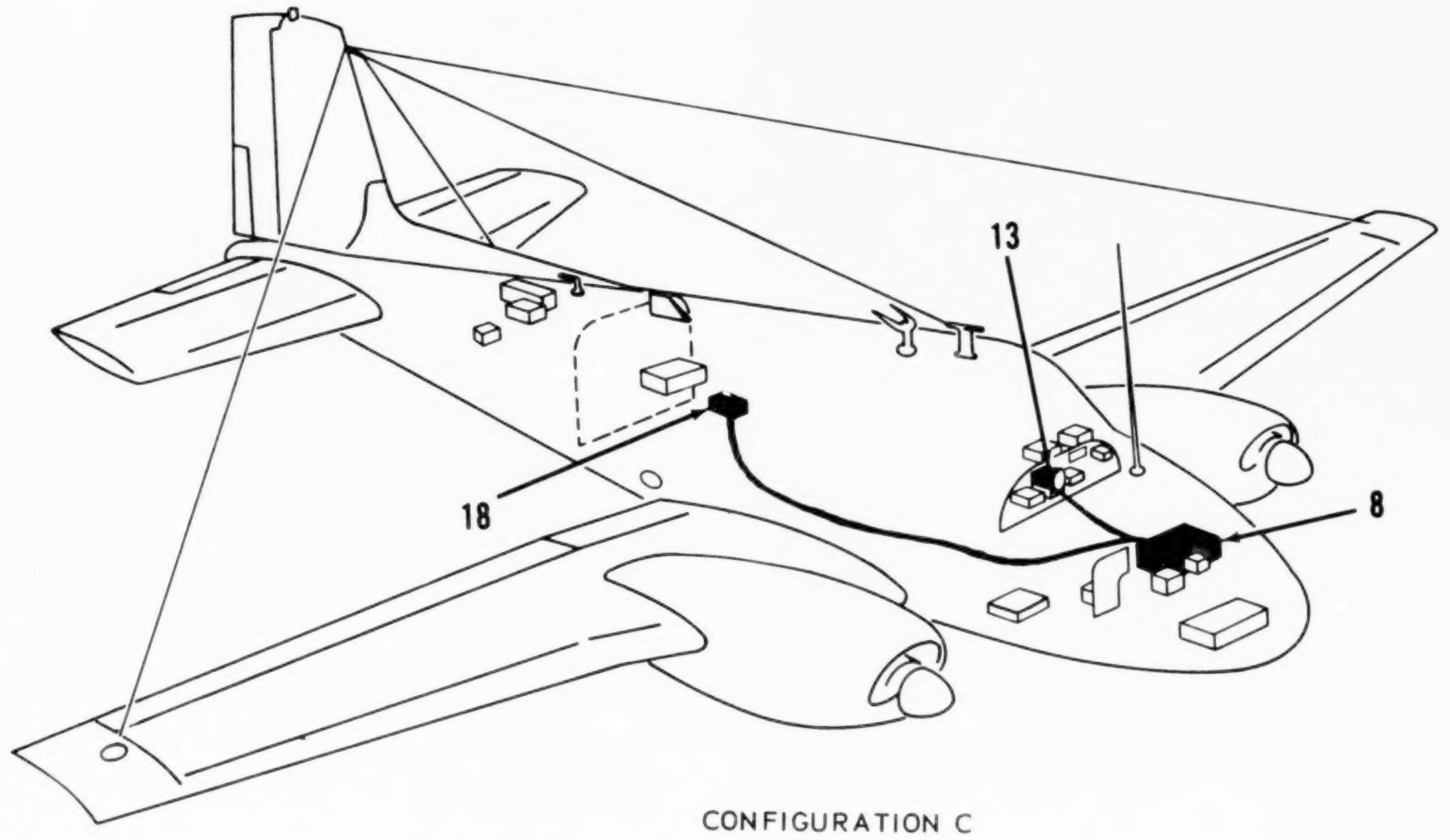
UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

TM1510-201-20-C-33

Figure 4-8. Uhf command facility, configuration C, wiring diagram.



CONFIGURATION A



CONFIGURATION C

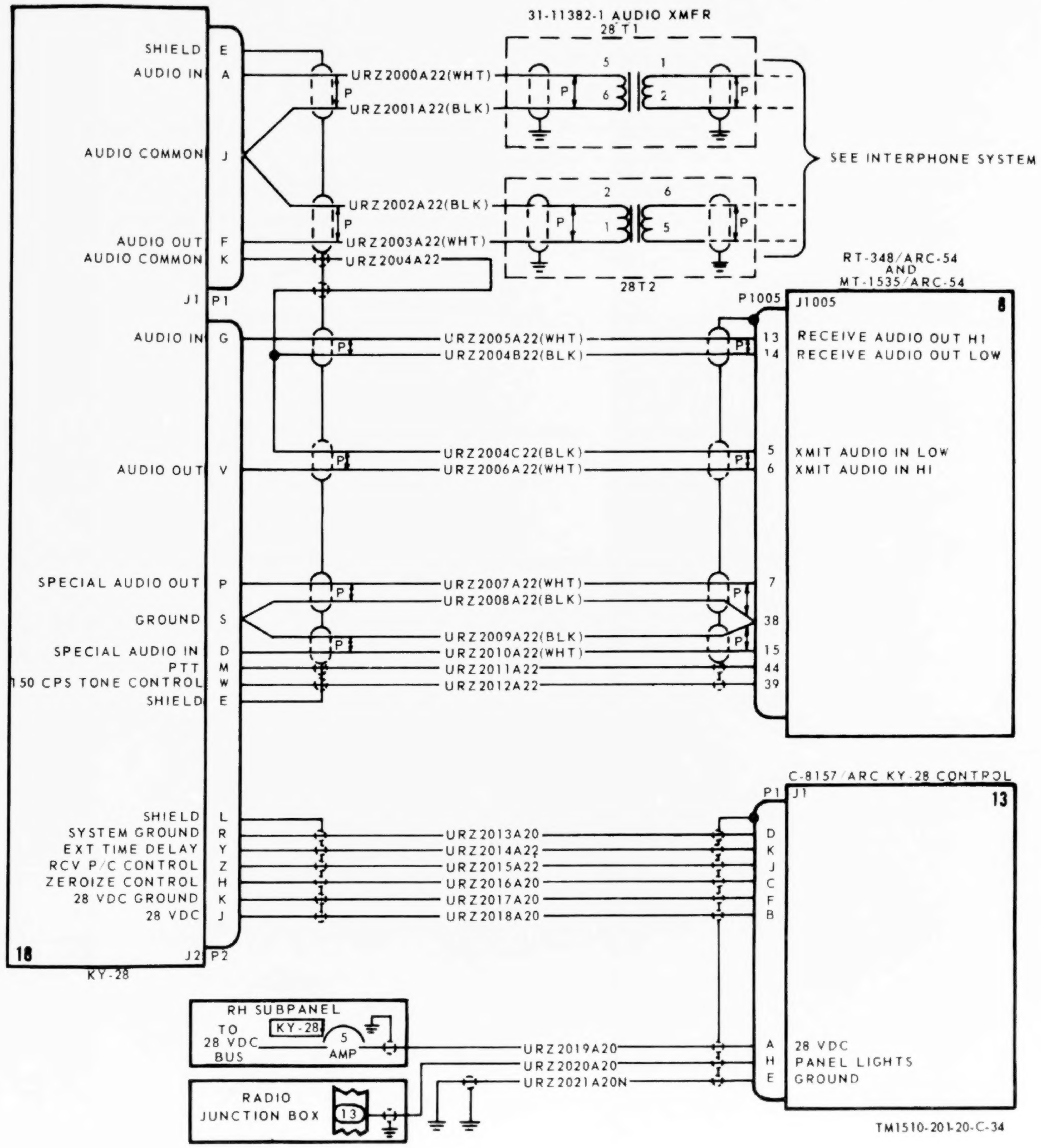

31-11382-1 AUDIO XMFR
28T1
28T2
SEE INTERPHONE SYSTEM
SHIELD E
AUDIO IN A
AUDIO COMMON J
AUDIO OUT F
AUDIO COMMON K
J1 P1
URZ2000A22(WHT)
URZ2001A22(BLK)
URZ2002A22(BLK)
URZ2003A22(WHT)
URZ2004A22
P
5
6
1
2
RT-348/ARC-54
AND
MT-1535/ARC-54
P1005
J1005
8
AUDIO IN G
AUDIO OUT V
SPECIAL AUDIO OUT P
GROUND S
SPECIAL AUDIO IN D
PTT M
150 CPS TONE CONTROL W
SHIELD E
URZ2005A22(WHT)
URZ2004B22(BLK)
URZ2004C22(BLK)
URZ2006A22(WHT)
URZ2007A22(WHT)
URZ2008A22(BLK)
URZ2009A22(BLK)
URZ2010A22(WHT)
URZ2011A22
URZ2012A22
13 RECEIVE AUDIO OUT HI
14 RECEIVE AUDIO OUT LOW
5 XMIT AUDIO IN LOW
6 XMIT AUDIO IN HI
7
38
15
44
39
C-8157/ARC KY-28 CONTROL
P1 J1
13
SHIELD L
SYSTEM GROUND R
EXT TIME DELAY Y
RCV P/C CONTROL Z
ZEROIZE CONTROL H
28 VDC GROUND K
28 VDC J
URZ2013A20
URZ2014A22
URZ2015A22
URZ2016A20
URZ2017A20
URZ2018A20
D
K
J
C
F
B
18
J2 P2
KY-28
RH SUBPANEL
TO 28 VDC BUS
KY-28
5 AMP
RADIO JUNCTION BOX
13
URZ2019A20
URZ2020A20
URZ2021A20N
A 28 VDC
H PANEL LIGHTS
E GROUND
TM1510-201-20-C-34

Figure 4–9. Secure voice facility, configurations A and C, wiring diagram.

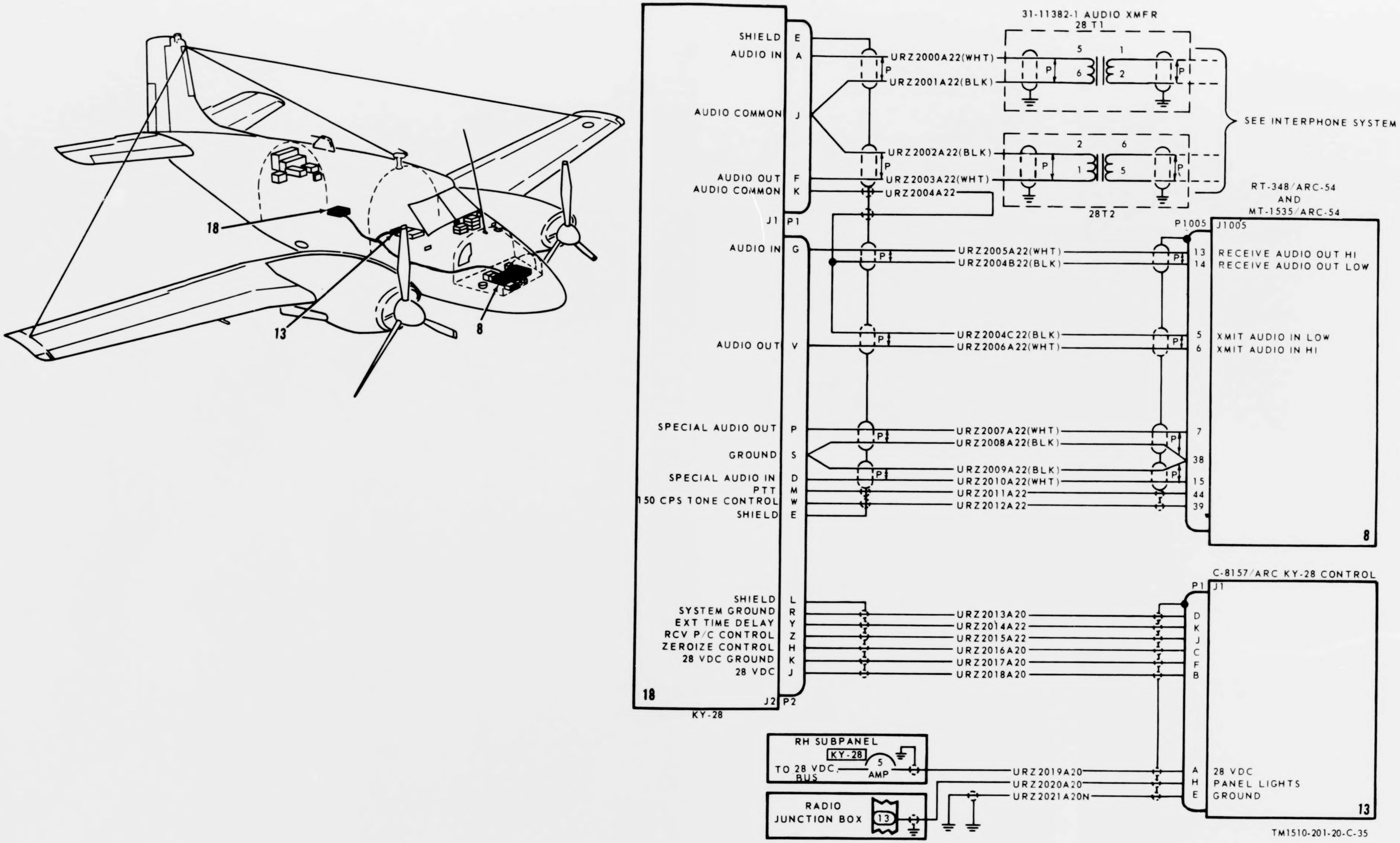
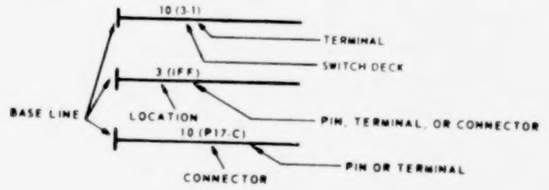

18
13
8
SHIELD E
AUDIO IN A
AUDIO COMMON J
AUDIO OUT F
AUDIO COMMON K
J1 P1
AUDIO IN G
AUDIO OUT V
SPECIAL AUDIO OUT P
GROUND S
SPECIAL AUDIO IN D
PTT M
150 CPS TONE CONTROL W
SHIELD E
SHIELD L
SYSTEM GROUND R
EXT TIME DELAY Y
RCV P/C CONTROL Z
ZEROIZE CONTROL H
28 VDC GROUND K
28 VDC J
18
J2 P2
KY-28
31-11382-1 AUDIO XMFR
28 T1
28T2
URZ2000A22(WHT)
URZ2001A22(BLK)
URZ2002A22(BLK)
URZ2003A22(WHT)
URZ2004A22
SEE INTERPHONE SYSTEM
RT-348/ARC-54
AND
MT-1535/ARC-54
P1005 J1005
URZ2005A22(WHT)
URZ2004B22(BLK)
13 RECEIVE AUDIO OUT HI
14 RECEIVE AUDIO OUT LOW
URZ2004C22(BLK)
URZ2006A22(WHT)
5 XMIT AUDIO IN LOW
6 XMIT AUDIO IN HI
URZ2007A22(WHT)
URZ2008A22(BLK)
URZ2009A22(BLK)
URZ2010A22(WHT)
URZ2011A22
URZ2012A22
7
38
15
44
39
8
C-8157/ARC KY-28 CONTROL
P1 J1
URZ2013A20
URZ2014A22
URZ2015A22
URZ2016A20
URZ2017A20
URZ2018A20
D
K
J
C
F
B
RH SUBPANEL
KY-28
5 AMP
TO 28 VDC BUS
RADIO JUNCTION BOX
13
URZ2019A20
URZ2020A20
URZ2021A20N
A 28 VDC
H PANEL LIGHTS
E GROUND
13
TM1510-201-20-C-35

Figure 4–10. Secure voice facility, configuration B, wiring diagram.

NOTES

1 THE NUMBER IMMEDIATELY ADJACENT TO THE BASE LINE INDICATES THE RELATIVE LOCATION OF THE WIRE CONNECTION. THE NUMBER AND OR LETTER(S) IN PARENTHESIS INDICATES THE PARTICULAR PIN, TERMINAL, AND OR CONNECTOR AT THE LOCATION WHERE THE WIRE IS CONNECTED. EXAMPLES OF THE WIRE CONNECTION NUMBERS FOLLOW


10 (3-1)
TERMINAL
SWITCH DECK
3 (IFF)
BASE LINE
LOCATION
PIN, TERMINAL, OR CONNECTOR
10 (P17-C)
PIN OR TERMINAL
CONNECTOR

2 ALL UNDERLINED LETTERS ARE LOWER CASE LETTERS. ALL LETTERS NOT UNDERLINED ARE CAPITAL LETTERS

3 ONLY APPLICABLE PINS, TERMINALS, ETC. ARE NORMALLY SHOWN

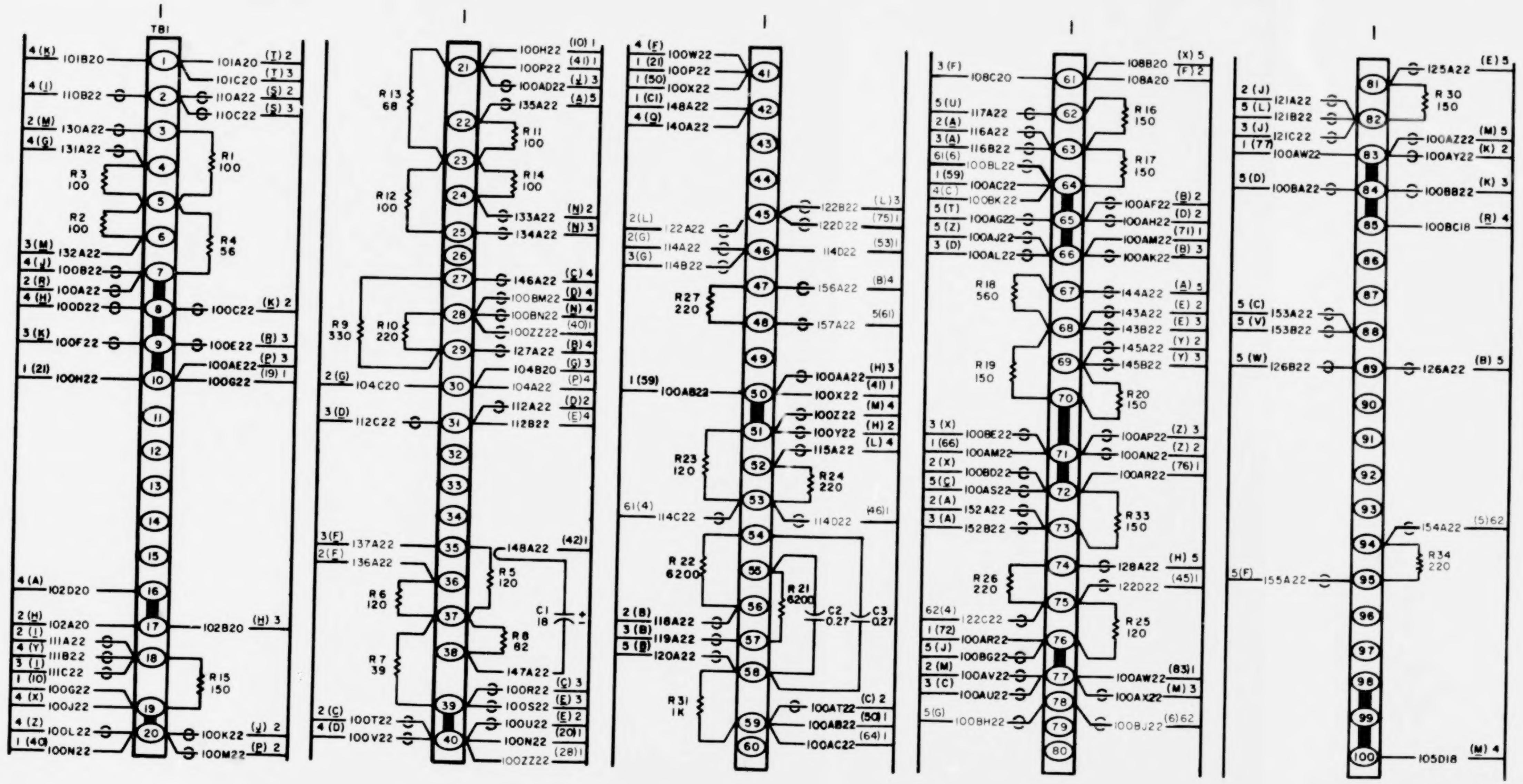
4 ALL RELAYS SHOWN IN DEENERGIZED (OFF) POSITION

5 ALL SWITCHES SHOWN IN RELEASED (OFF) POSITION

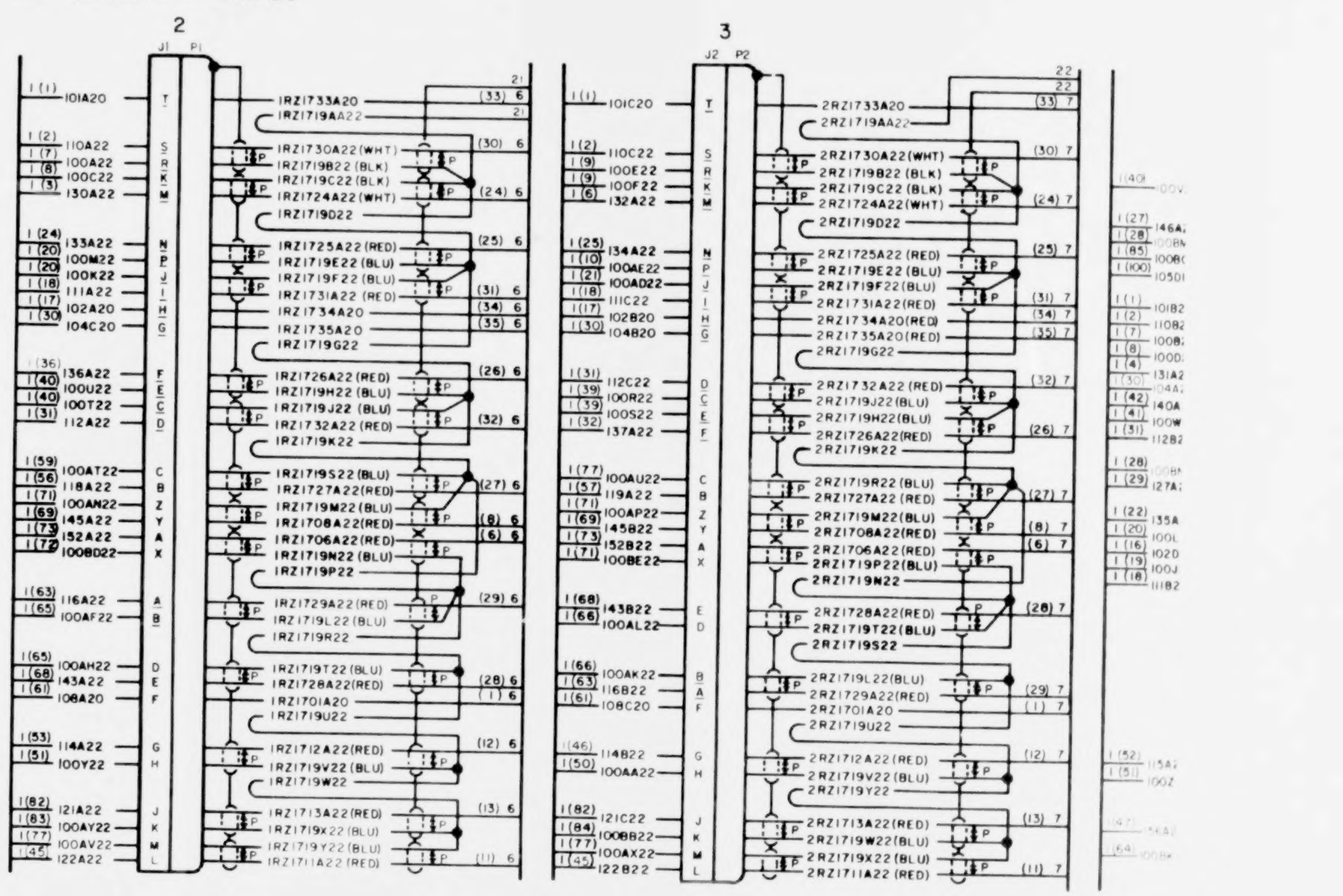
6 COLORS ARE ABBREVIATED AS FOLLOWS
BLUE (BLU), BLACK (BLK), WHITE (WHT)

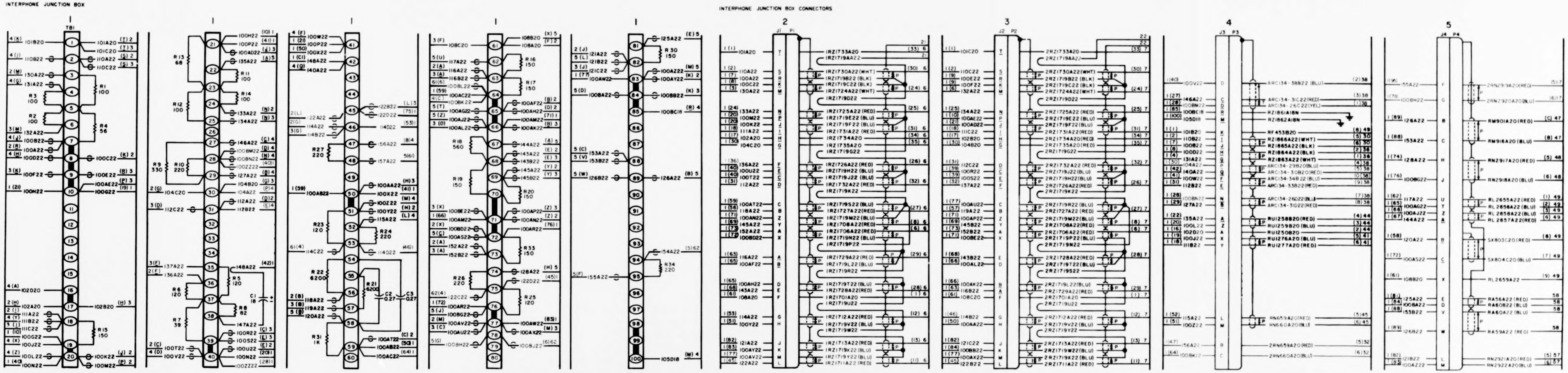
7 UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN MICROFARADS

INTERPHONE JUNCTION BOX


1
TB1
R1 100
R2 100
R3 100
R4 56
R5 120
R6 120
R7 39
R8 82
R9 330
R10 220
R11 100
R12 100
R13 68
R14 100
R15 150
R16 150
R17 150
R18 560
R19 150
R20 150
R21 6200
R22 6200
R23 120
R24 220
R25 120
R26 220
R27 220
R30 150
R31 1K
R33 150
R34 220
C1 18
C2 0.27
C3 0.27

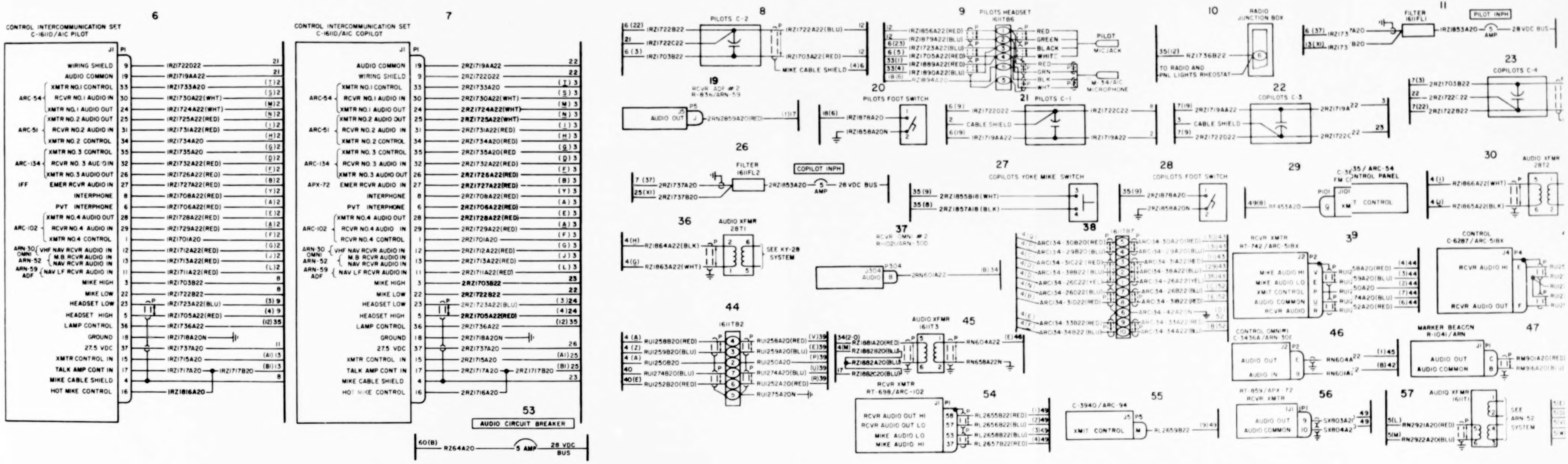
INTERPHONE JUNCTION BOX CONNECTORS

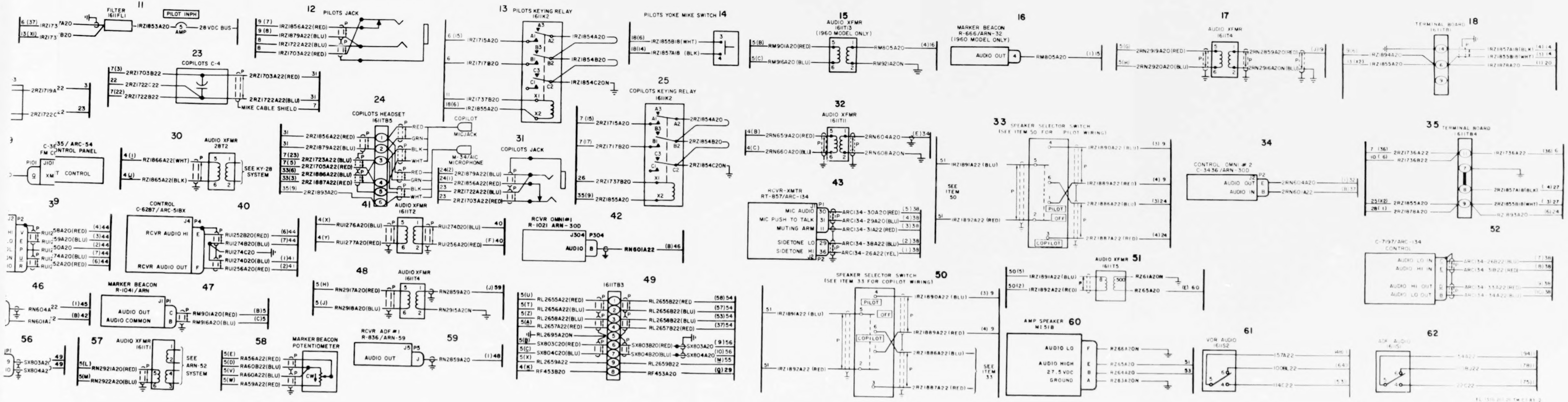

2
J1
P1
3
J2
P2


INTERPHONE JUNCTION BOX
INTERPHONE JUNCTION BOX CONNECTORS
TB1
1
1
1
1
2
J1 P1
3
J2 P2
4
J3 P3
5
J4 P4
EL 1510-201-20-TM-C1-8

PUB. NO. TM 11-1510-201-20
FIG. NO. 4-11①

Figure 4-11①. Interphone facility, configuration B, wiring diagram (sheet 1 of 2)


6
CONTROL INTERCOMMUNICATION SET
C-1611D/AIC PILOT
J1
P1
WIRING SHIELD
AUDIO COMMON
ARC-54
XMTR NO.1 CONTROL
RCVR NO.1 AUDIO IN
XMTR NO.1 AUDIO OUT
ARC-51
XMTR NO.2 AUDIO OUT
RCVR NO.2 AUDIO IN
XMTR NO.2 CONTROL
ARC-134
XMTR NO.3 CONTROL
RCVR NO.3 AUDIO IN
XMTR NO.3 AUDIO OUT
IFF
EMER RCVR AUDIO IN
INTERPHONE
PVT INTERPHONE
ARC-102
XMTR NO.4 AUDIO OUT
RCVR NO.4 AUDIO IN
RCVR NO.4 CONTROL
ARN-30 OMNI
ARN-52
ARN-59 ADF
VHF NAV RCVR AUDIO IN
M.B. RCVR AUDIO IN
NAV RCVR AUDIO IN
NAV LF RCVR AUDIO IN
MIKE HIGH
MIKE LOW
HEADSET LOW
HEADSET HIGH
LAMP CONTROL
GROUND
27.5 VDC
XMTR CONTROL IN
TALK AMP CONT IN
MIKE CABLE SHIELD
HOT MIKE CONTROL
1RZ1722D22
1RZ1719A22
1RZ1733A20
1RZ1730A22(WHT)
1RZ1724A22(WHT)
1RZ1725A22(RED)
1RZ1731A22(RED)
1RZ1734A20
1RZ1735A20
1RZ1732A22(RED)
1RZ1726A22(RED)
1RZ1727A22(RED)
1RZ1708A22(RED)
1RZ1706A22(RED)
1RZ1728A22(RED)
1RZ1729A22(RED)
1RZ1701A20
1RZ1712A22(RED)
1RZ1713A22(RED)
1RZ1711A22(RED)
1RZ1703B22
1RZ1722B22
1RZ1723A22(BLU)
1RZ1705A22(RED)
1RZ1736A22
1RZ1718A20N
1RZ1737A20
1RZ1715A20
1RZ1717A20
1RZ1717B20
1RZ1816A20
7
CONTROL INTERCOMMUNICATION SET
C-1611D/AIC COPILOT
APX-72
2RZ1719A22
2RZ1722D22
2RZ1733A20
2RZ1730A22(WHT)
2RZ1724A22(WHT)
2RZ1725A22(WHT)
2RZ1731A22(RED)
2RZ1734A20(RED)
2RZ1735A20(RED)
2RZ1732A22(RED)
2RZ1726A22(RED)
2RZ1727A22(RED)
2RZ1708A22(RED)
2RZ1706A22(RED)
2RZ1728A22(RED)
2RZ1729A22(RED)
2RZ1701A20
2RZ1712A22(RED)
2RZ1713A22(RED)
2RZ1711A22(RED)
2RZ1703B22
2RZ1722B22
2RZ1723A22(BLU)
2RZ1705A22(RED)
2RZ1736A22
2RZ1718A20N
2RZ1737A20
2RZ1715A20
2RZ1717A20
2RZ1717B20
2RZ1716A20
53
AUDIO CIRCUIT BREAKER
60(B)
RZ64A20
5 AMP
28 VDC BUS
8
PILOTS C-2
1RZ1722B22
1RZ1722C22
1RZ1703B22
1RZ1722A22(BLU)
1RZ1703A22(RED)
MIKE CABLE SHIELD
9
PILOTS HEADSET
1611TB6
1RZ1856A22(RED)
1RZ1879A22(BLU)
1RZ1723A22(BLU)
1RZ1705A22(RED)
1RZ1889A22(RED)
1RZ1890A22(BLU)
1RZ1894A20
RED
GREEN
BLACK
WHITE
GRN
BLK
WHT
PILOT MIC JACK
M-34/AIC MICROPHONE
10
RADIO JUNCTION BOX
1RZ1736B22
TO RADIO AND PNL LIGHTS RHEOSTAT
11
FILTER 1611FL1
PILOT INPH
1RZ1853A20
5 AMP
28 VDC BUS
19
RCVR ADF #2
R-836/ARN-59
AUDIO OUT
2RN2859A20(RED)
20
PILOTS FOOT SWITCH
1RZ1878A20
1RZ1858A20N
21
PILOTS C-1
CABLE SHIELD
1RZ1722D22
1RZ1719A22
1RZ1722C22
22
COPILOTS C-3
2RZ1719AA22
CABLE SHIELD
2RZ1722D22
23
COPILOTS C-4
2RZ1703B22
2RZ1722C22
2RZ1722B22
26
FILTER 1611FL2
COPILOT INPH
2RZ1737A20
2RZ1737B20
2RZ1853A20
5 AMP
28 VDC BUS
27
COPILOTS YOKE MIKE SWITCH
2RZ1855B18(WHT)
2RZ1857A18(BLK)
28
COPILOTS FOOT SWITCH
2RZ1878A20
2RZ1858A20N
29
C-3835/ARC-54 CONTROL PANEL
FM
XMT CONTROL
RF453A20
30
AUDIO XFMR 28T2
RZ1866A22(WHT)
RZ1865A22(BLK)
36
AUDIO XFMR 28T1
RZ1864A22(BLK)
RZ1863A22(WHT)
SEE KY-28 SYSTEM
37
RCVR OMNI #2
R-1021/ARN-30D
AUDIO
2RN601A22
38
1611TB7
ARC134-30B20(RED)
ARC134-29B20(BLU)
ARC134-31C22(RED)
ARC134-38B22(BLU)
ARC134-26C22(YEL)
ARC134-26D22(RED)
ARC134-31D22(RED)
ARC134-33B22(RED)
ARC134-34B22(BLU)
ARC134-30A20(RED)
ARC134-29A20(BLU)
ARC134-31A22(RED)
ARC134-38A22(BLU)
ARC134-26A22(YEL)
ARC134-26B22(RED)
ARC134-31B22(RED)
ARC134-42A20N
ARC134-33A22(RED)
ARC134-34A22(BLU)
39
RCVR XMTR
RT-742/ARC-51BX
MIKE AUDIO HI
MIKE AUDIO LO
XMIT CONTROL
AUDIO COMMON
RCVR AUDIO
RU258A20(RED)
RU259A20(BLU)
RU250A20
RU274A20(BLU)
RU252A20(RED)
CONTROL
C-6287/ARC-51BX
RCVR AUDIO HI
RCVR AUDIO OUT
44
1611TB2
RU258B20(RED)
RU259B20(BLU)
RU250B20
RU274B20(BLU)
RU252B20(RED)
RU258A20(RED)
RU259A20(BLU)
RU250A20
RU274A20(BLU)
RU252A20(RED)
RU275A20N
45
AUDIO XFMR 1611T3
RZ1881A20(RED)
RZ1882B20(BLU)
RZ1882A20(BLU)
RZ1882C20(BLU)
RN604A22
RN658A22N
46
CONTROL OMNI #1
C-3436A/ARN-30E
AUDIO OUT
AUDIO IN
RN604A22
RN601A22
47
MARKER BEACON
R-1041/ARN
AUDIO OUT
AUDIO COMMON
RM901A20(RED)
RM916A20(BLU)
54
RCVR XMTR
RT-698/ARC-102
RCVR AUDIO OUT HI
RCVR AUDIO OUT LO
MIKE AUDIO LO
MIKE AUDIO HI
RL2655B22(RED)
RL2656B22(BLU)
RL2658B22(BLU)
RL2657B22(RED)
55
C-3940/ARC-94
XMIT CONTROL
RL2659B22
56
RT-859/APX-72
RCVR XMTR
AUDIO OUT
AUDIO COMMON
SX803A20
SX804A22
57
AUDIO XFMR 1611T1
RN2921A20(RED)
RN2922A20(BLU)
SEE ARN-52 SYSTEM



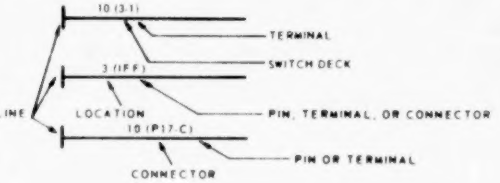
11 FILTER 1611FL1
PILOT INPH
5 AMP
28 VDC BUS
12 PILOTS JACK
13 PILOTS KEYING RELAY 1611K2
PILOTS YOKE MIKE SWITCH 14
15 AUDIO XFMR 1611T3 (1960 MODEL ONLY)
16 MARKER BEACON R-666/ARN-32 (1960 MODEL ONLY)
AUDIO OUT
17 AUDIO XFMR 1611T4
TERMINAL BOARD 18 1611TB
23 COPILOTS C-4
MIKE CABLE SHIELD
24 COPILOTS HEADSET 1611TB5
COPILOT MICJACK
M-34/AIC MICROPHONE
25 COPILOTS KEYING RELAY 1611K2
30 AUDIO XFMR 28T2
SEE KY-28 SYSTEM
C-3835/ARC-54 FM CONTROL PANEL
XMIT CONTROL
31 COPILOTS JACK
32 AUDIO XFMR 1611T11
33 SPEAKER SELECTOR SWITCH (SEE ITEM 50 FOR PILOT WIRING)
PILOT
OFF
COPILOT
SEE ITEM 50
34 CONTROL OMNI #2 C-3436/ARN-300
AUDIO OUT
AUDIO IN
35 TERMINAL BOARD 1611TB4
39
40 CONTROL C-6287/ARC-51BX
RCVR AUDIO HI
RCVR AUDIO OUT
41 AUDIO XFMR 1611T2
42 RCVR OMNI #1 R-1021 ARN-300
AUDIO
43 RCVR-XMTR RT-857/ARC-134
MIC AUDIO
MIC PUSH TO TALK
MUTING ARM
SIDETONE LO
SIDETONE HI
46
47 MARKER BEACON R-1041/ARN
AUDIO OUT
AUDIO COMMON
48 AUDIO XFMR 1611T4
49 1611TB3
50 SPEAKER SELECTOR SWITCH (SEE ITEM 33 FOR COPILOT WIRING)
SEE ITEM 33
51 AUDIO XFMR 1611T5
52 C-7197/ARC-134 CONTROL
AUDIO LO IN
AUDIO HI IN
AUDIO HI OUT
AUDIO LO OUT
56
57 AUDIO XFMR 1611T1
SEE ARN-52 SYSTEM
58 MARKER BEACON POTENTIOMETER
59 RCVR ADF #1 R-836/ARN-59
AUDIO OUT
60 AMP SPEAKER M1518
AUDIO LO
AUDIO HIGH
27.5 VDC
GROUND
61 VOR AUDIO 1611S2
62 ADF AUDIO 1611S1
EL 1510-201-20-TM-C1-83-2

PUB. NO. TM 11-1510-201-20
FIG. NO. 4-11(2)

Figure 4-11(2). Interphone facility, configuration B, wiring diagram (sheet 2 of 2)

NOTES

THE NUMBER IMMEDIATELY ADJACENT TO THE BASE LINE INDICATES THE RELATIVE LOCATION OF THE WIRE CONNECTION. THE NUMBER AND OR LETTER(S) IN PARENTHESIS INDICATES THE PARTICULAR PIN, TERMINAL, AND OR CONNECTOR AT THE LOCATION WHERE THE WIRE IS CONNECTED. EXAMPLES OF THE WIRE CONNECTION NUMBERS FOLLOW


10 (3-1)
TERMINAL
SWITCH DECK
3 (IFF)
BASE LINE
LOCATION
PIN, TERMINAL, OR CONNECTOR
10 (P17-C)
PIN OR TERMINAL
CONNECTOR

2 ALL UNDERLINED LETTERS ARE LOWER CASE LETTERS. ALL LETTERS NOT UNDERLINED ARE CAPITAL LETTERS

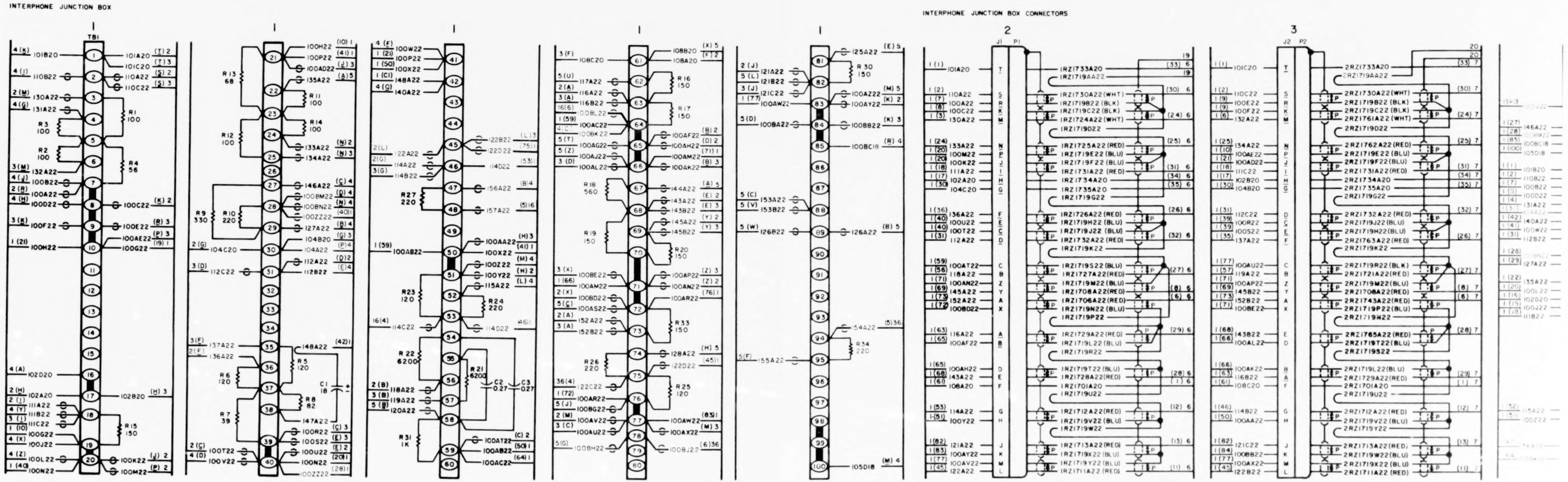
3 ONLY APPLICABLE PINS, TERMINALS, ETC. ARE NORMALLY SHOWN

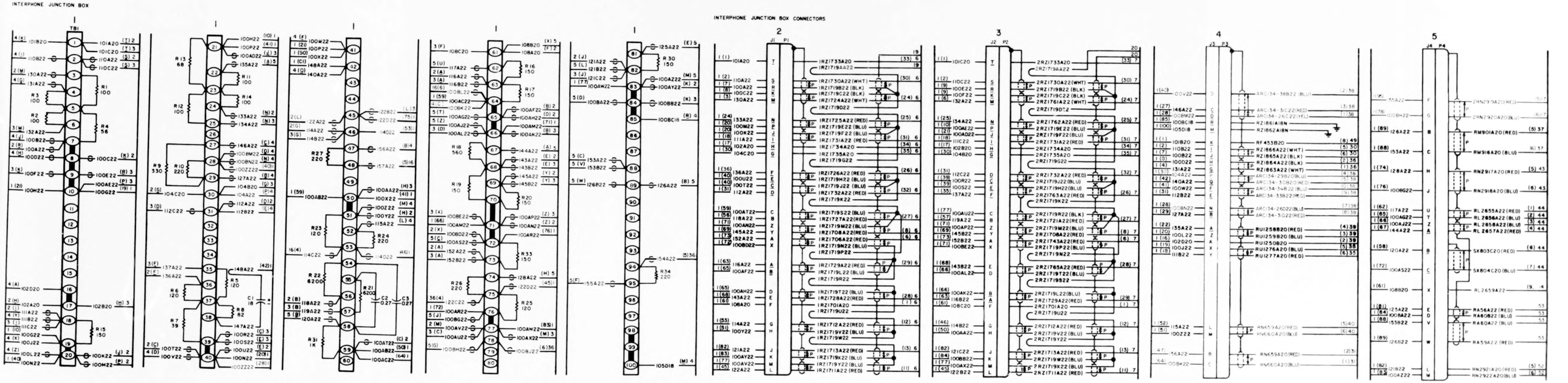
4 ALL RELAYS SHOWN IN DEENERGIZED (OFF) POSITION

5 ALL SWITCHES SHOWN IN RELEASED (OFF) POSITION

6 COLORS ARE ABBREVIATED AS FOLLOWS
BLUE (BLU), BLACK (BLK), WHITE (WHT)

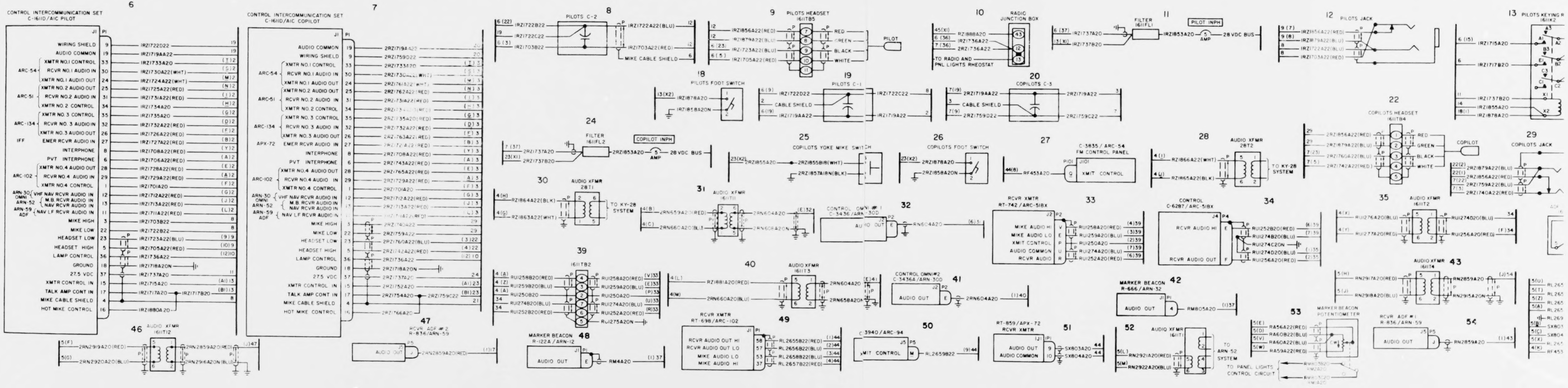
7 UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN MICROFARADS


INTERPHONE JUNCTION BOX
1
TB1
INTERPHONE JUNCTION BOX CONNECTORS
2
J1
P1
3
J2
P2

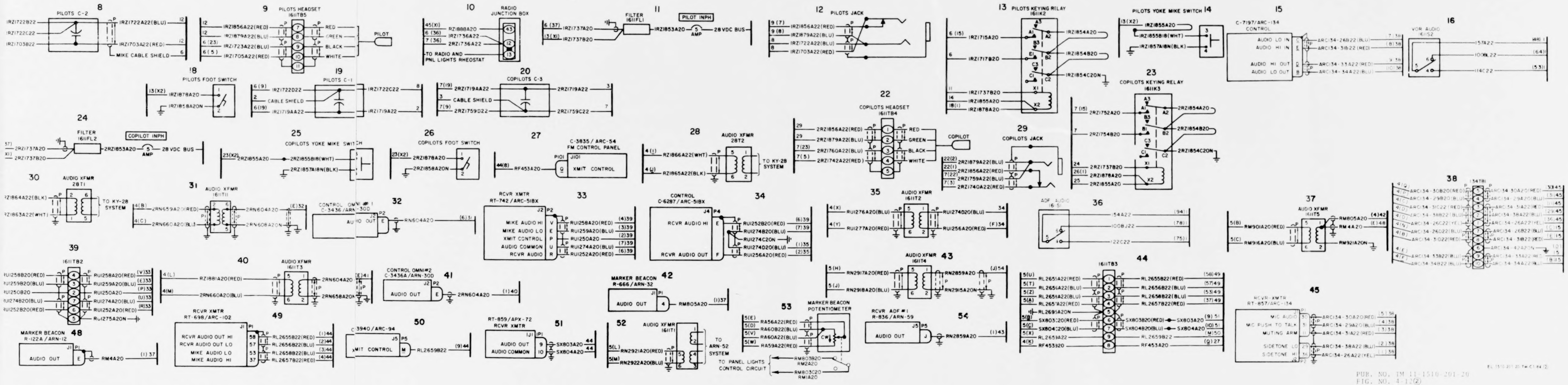

INTERPHONE JUNCTION BOX
1
TB1
INTERPHONE JUNCTION BOX CONNECTORS
2
J1 P1
3
J2 P2
4
J3 P3
5
J4 P4

PUB. NO. TM 11-1510-201-20 1510-201-20-TM-C1-84 ①
FIG. NO. 4-12①

Figure 4-12①. Interphone facility, configuration A, wiring diagram (sheet 1 of 2).

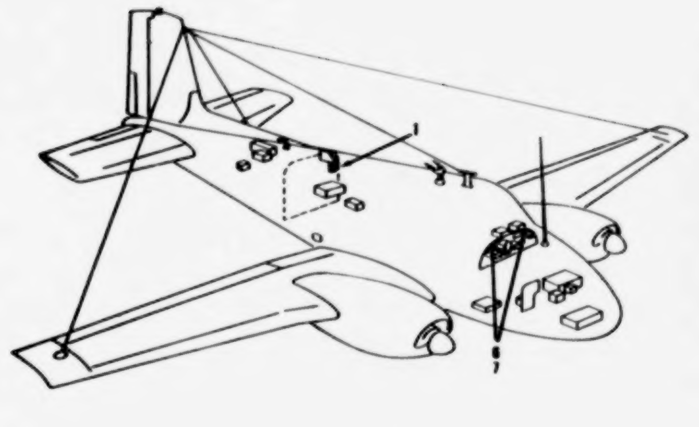


CONTROL INTERCOMMUNICATION SET C-1611D/AIC PILOT
6
CONTROL INTERCOMMUNICATION SET C-1611D/AIC COPILOT
7
PILOTS C-2
8
PILOTS HEADSET 1611TB5
9
RADIO JUNCTION BOX
10
TO RADIO AND PNL LIGHTS RHEOSTAT
FILTER 1611FL1
11
PILOT INPH
28 VDC BUS
PILOTS JACK
12
PILOTS KEYING R
13
PILOTS FOOT SWITCH
18
PILOTS C-1
19
COPILOTS C-3
20
COPILOTS HEADSET 1611TB4
22
FILTER 1611FL2
24
COPILOT INPH
COPILOTS YOKE MIKE SWITCH
25
COPILOTS FOOT SWITCH
26
C-3835/ARC-54 FM CONTROL PANEL
XMIT CONTROL
27
AUDIO XFMR 28T2
28
TO KY-28 SYSTEM
COPILOTS JACK
29
AUDIO XFMR 28T1
30
AUDIO XFMR 1611T1
31
CONTROL OMNI #1 C-3436/ARN-30D
AUDIO OUT
32
RCVR XMTR RT-742/ARC-51BX
33
CONTROL C-6287/ARC-51BX
34
AUDIO XFMR 1611T2
35
1611TB2
39
AUDIO XFMR 1611T3
40
CONTROL OMNI #2 C-3436A/ARN-30D
41
MARKER BEACON R-666/ARN-32
42
AUDIO XFMR 1611T4
43
AUDIO XFMR 1611T12
46
RCVR ADF #2 R-836/ARN-59
47
MARKER BEACON R-122A/ARN-12
48
RCVR XMTR RT-698/ARC-102
49
C-3940/ARC-94
XMIT CONTROL
50
RT-859/APX-72 RCVR XMTR
51
AUDIO XFMR 1611T1
TO ARN-52 SYSTEM
TO PANEL LIGHTS CONTROL CIRCUIT
52
MARKER BEACON POTENTIOMETER
53
RCVR ADF #1 R-836/ARN-59
54


8 PILOTS C-2
9 PILOTS HEADSET 1611T85
PILOT
10 RADIO JUNCTION BOX
TO RADIO AND PNL LIGHTS RHEOSTAT
11 FILTER 1611FL1
PILOT INPH
28 VDC BUS
AMP
12 PILOTS JACK
13 PILOTS KEYING RELAY 1611K2
PILOTS YOKE MIKE SWITCH 14
15 C-7197/ARC-134 CONTROL
AUDIO LO IN
AUDIO HI IN
AUDIO HI OUT
AUDIO LO OUT
16 VOR AUDIO
18 PILOTS FOOT SWITCH
19 PILOTS C-1
CABLE SHIELD
20 COPILOTS C-3
22 COPILOTS HEADSET 1611TB4
COPILOT
23 COPILOTS KEYING RELAY 1611K3
24 FILTER 1611FL2
COPILOT INPH
28 VDC BUS
25 COPILOTS YOKE MIKE SWITCH
26 COPILOTS FOOT SWITCH
27 C-3835/ARC-54 FM CONTROL PANEL
XMIT CONTROL
28 AUDIO XFMR 28T2
TO KY-28 SYSTEM
29 COPILOTS JACK
30 AUDIO XFMR 28T1
TO KY-28 SYSTEM
31 AUDIO XFMR 1611T1
32 CONTROL OMNI #1 C-3436/ARN-30D
AUDIO OUT
33 RCVR XMTR RT-742/ARC-51BX
MIKE AUDIO HI
MIKE AUDIO LO
XMIT CONTROL
AUDIO COMMON
RCVR AUDIO
34 CONTROL C-6287/ARC-51BX
RCVR AUDIO HI
RCVR AUDIO OUT
35 AUDIO XFMR 1611T2
36 ADF AUDIO
37 AUDIO XFMR 1611T5
38 134TB1
39 1611TB2
40 AUDIO XFMR 1611T3
41 CONTROL OMNI#2 C-3436A/ARN-30D
AUDIO OUT
42 MARKER BEACON R-666/ARN-32
AUDIO OUT
43 AUDIO XFMR 1611T4
44 1611TB3
45 RCVR XMTR RT-857/ARC-134
MIC AUDIO
MIC PUSH TO TALK
MUTING ARM
SIDETONE LO
SIDETONE HI
48 MARKER BEACON R-122A/ARN-12
AUDIO OUT
49 RCVR XMTR RT-698/ARC-102
RCVR AUDIO OUT HI
RCVR AUDIO OUT LO
MIKE AUDIO LO
MIKE AUDIO HI
50 C-3940/ARC-94
XMIT CONTROL
51 RT-859/APX-72 RCVR XMTR
AUDIO OUT
AUDIO COMMON
52 AUDIO XFMR 1611T1
TO ARN-52 SYSTEM
53 MARKER BEACON POTENTIOMETER
TO PANEL LIGHTS CONTROL CIRCUIT
54 RCVR ADF #1 R-836/ARN-59
AUDIO OUT
EL 1510 201 20 TM C1 84 (2)

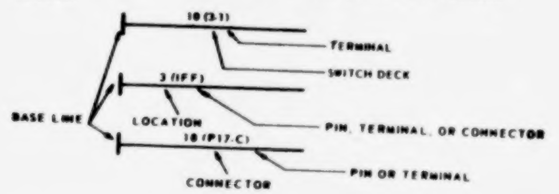
PUB. NO. TM 11-1510-201-20
FIG. NO. 4-12②

Figure 4-12②. Interphone facility, configuration 3, wiring diagram (sheet 2 of 2)



NOTES

1. THE NUMBER IMMEDIATELY ADJACENT TO THE BASE LINE INDICATES THE RELATIVE LOCATION OF THE WIRE CONNECTION. THE NUMBER AND OR LETTER(S) IN PARENTHESIS INDICATES THE PARTICULAR PIN, TERMINAL, AND OR CONNECTOR AT THE LOCATION WHERE THE WIRE IS CONNECTED. EXAMPLES OF THE WIRE CONNECTION NUMBERS FOLLOW.


10 (3-1)
TERMINAL
SWITCH DECK
3 (IFF)
BASE LINE
LOCATION
PIN, TERMINAL, OR CONNECTOR
10 (P17-C)
PIN OR TERMINAL
CONNECTOR

2. ALL UNDERLINED LETTERS ARE LOWER CASE LETTERS. ALL LETTERS NOT UNDERLINED ARE CAPITAL LETTERS.
3. ONLY APPLICABLE PINS, TERMINALS, ETC. ARE NORMALLY SHOWN.
4. ALL RELAYS SHOWN IN DEENERGIZED (OFF) POSITION.
5. ALL SWITCHES SHOWN IN RELEASED (OFF) POSITION.
6. COLORS ARE ABBREVIATED AS FOLLOWS: BLUE (BLU), BLACK (BLK), WHITE (WHT).
7. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN MICROFARADS.

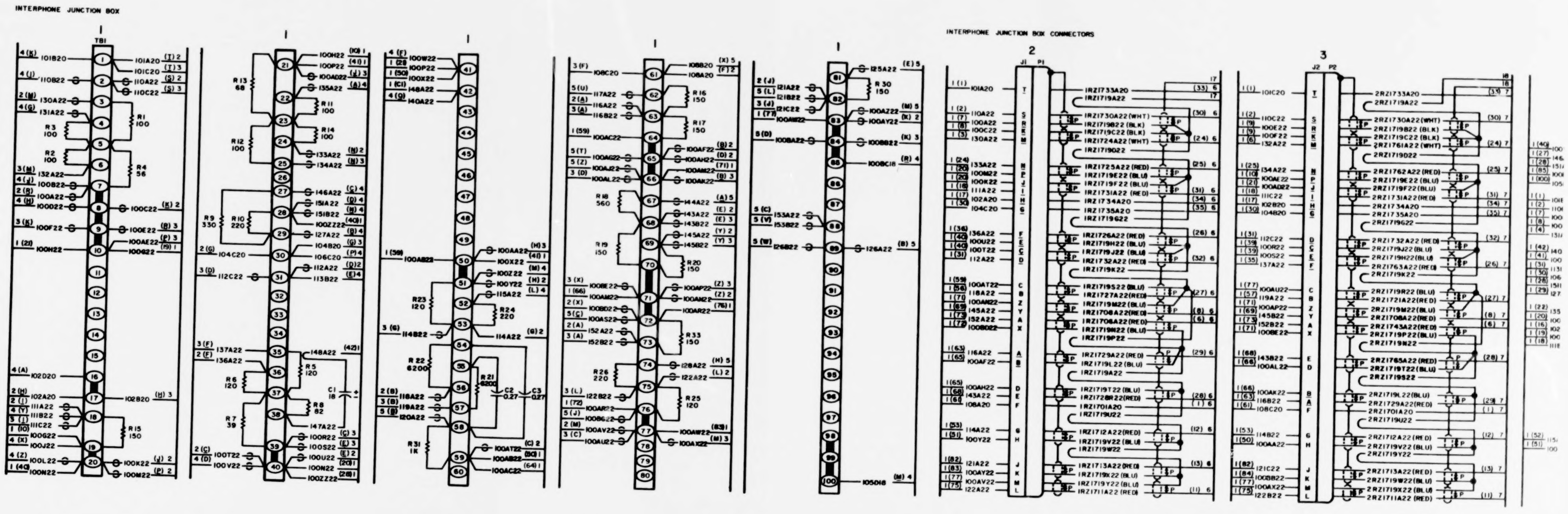

INTERPHONE JUNCTION BOX
1
TB1
INTERPHONE JUNCTION BOX CONNECTORS
2
J1
P1
3
J2
P2

Figure 4-18(1). Interphone facility configuration C, wiring diagram.

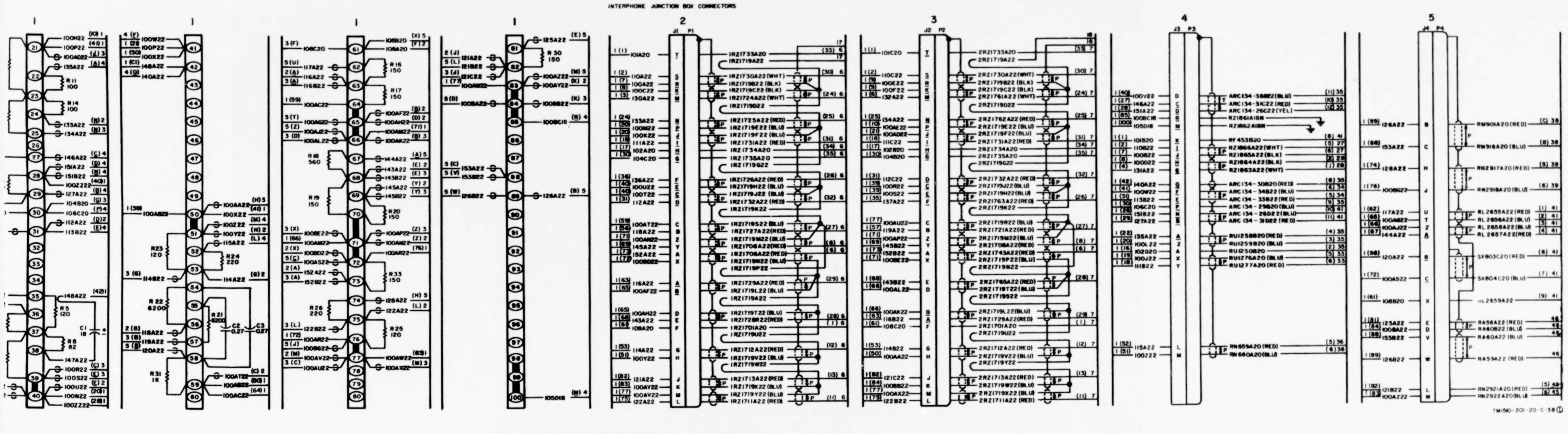

INTERPHONE JUNCTION BOX CONNECTORS
1
1
1
1
2
J1
P1
3
J2
P2
4
J3
P3
5
J4
P4
TM1510-201-20-C-38 ①

Figure 4-18(1). Interphone facility configuration C, wiring diagram.

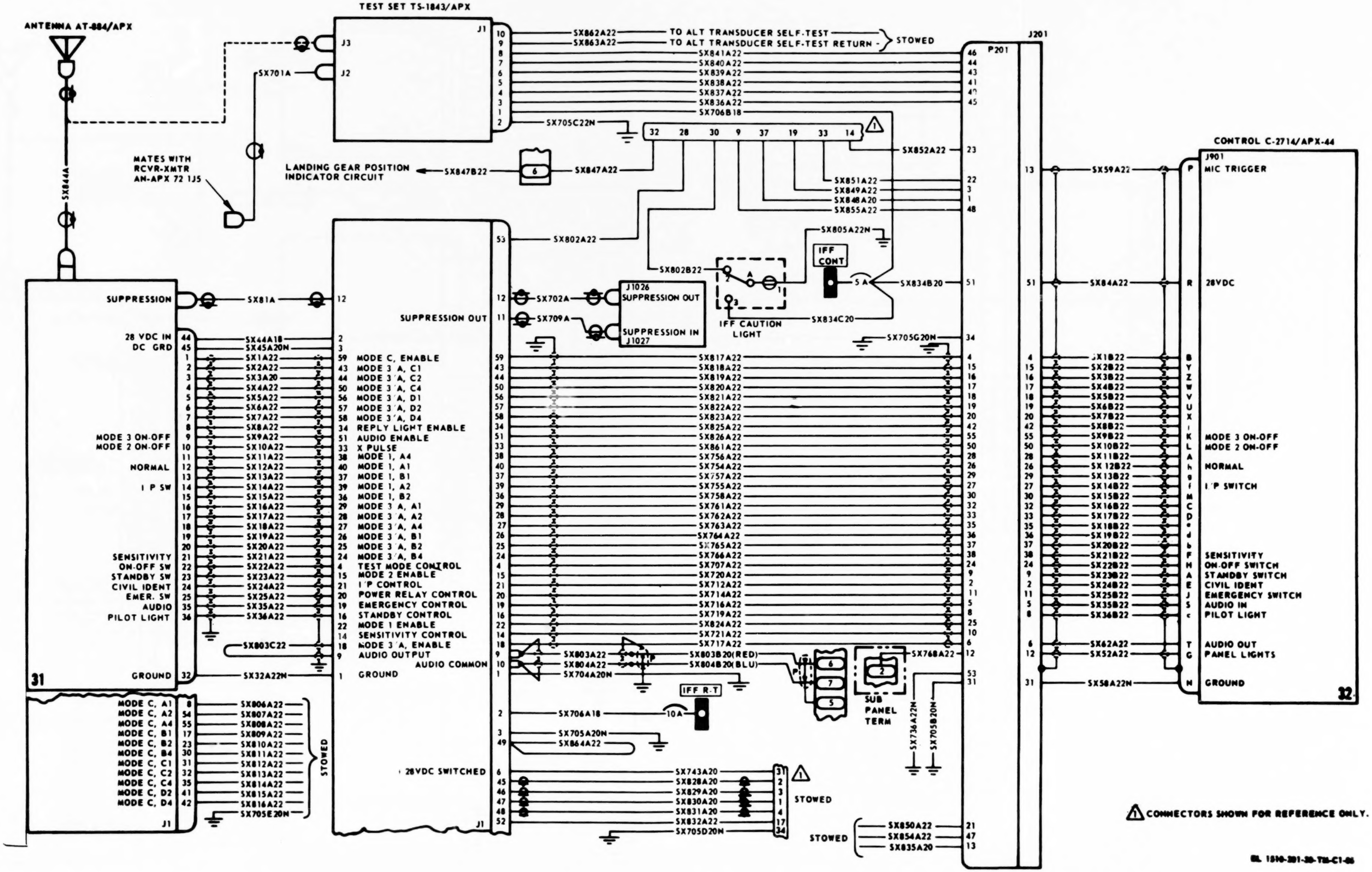

ANTENNA AT-884/APX
SX844A
TEST SET TS-1843/APX
J1
J2
J3
SX701A
MATES WITH RCVR-XMTR AN-APX 72 1J5
TO ALT TRANSDUCER SELF-TEST
TO ALT TRANSDUCER SELF-TEST RETURN
STOWED
J201
P201
LANDING GEAR POSITION INDICATOR CIRCUIT
SX847B22
SX847A22
SX852A22
SX802A22
SX802B22
SX805A22N
IFF CONT
5 A
SX834B20
SX834C20
IFF CAUTION LIGHT
J1026 SUPPRESSION OUT
SUPPRESSION IN J1027
SUPPRESSION
SUPPRESSION OUT
SX81A
SX702A
SX709A
SX705G20N
28 VDC IN
DC GRD
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SW
SENSITIVITY
ON-OFF SW
STANDBY SW
CIVIL IDENT
EMER. SW
AUDIO
PILOT LIGHT
GROUND
31
MODE C, ENABLE
MODE 3/A, C1
MODE 3/A, C2
MODE 3/A, C4
MODE 3/A, D1
MODE 3/A, D2
MODE 3/A, D4
REPLY LIGHT ENABLE
AUDIO ENABLE
X PULSE
MODE 1, A4
MODE 1, A1
MODE 1, B1
MODE 1, A2
MODE 1, B2
MODE 3/A, A1
MODE 3/A, A2
MODE 3/A, A4
MODE 3/A, B1
MODE 3/A, B2
MODE 3/A, B4
TEST MODE CONTROL
MODE 2 ENABLE
I/P CONTROL
POWER RELAY CONTROL
EMERGENCY CONTROL
STANDBY CONTROL
MODE 1 ENABLE
SENSITIVITY CONTROL
MODE 3/A, ENABLE
AUDIO OUTPUT
AUDIO COMMON
GROUND
SX803C22
SX32A22N
SX803B20(RED)
SX804B20(BLU)
SX704A20N
SX768A22
SUB PANEL TERM
IFF R/T
10A
SX706A18
SX705A20N
SX864A22
28VDC SWITCHED
SX736A22N
SX705B20N
MODE C, A1
MODE C, A2
MODE C, A4
MODE C, B1
MODE C, B2
MODE C, B4
MODE C, C1
MODE C, C2
MODE C, C4
MODE C, D2
MODE C, D4
SX705E20N
STOWED
SX705D20N
SX850A22
SX854A22
SX835A20
CONTROL C-2714/APX-44
J901
MIC TRIGGER
28VDC
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SWITCH
SENSITIVITY
ON-OFF SWITCH
STANDBY SWITCH
CIVIL IDENT
EMERGENCY SWITCH
AUDIO IN
PILOT LIGHT
AUDIO OUT
PANEL LIGHTS
GROUND
SX59A22
SX84A22
SX62A22
SX52A22
SX58A22N
32
⚠ CONNECTORS SHOWN FOR REFERENCE ONLY.
EL 1510-201-20-TM-C1-06

Figure 4–14. IFF transponder facility, configuration A, wiring diagram.

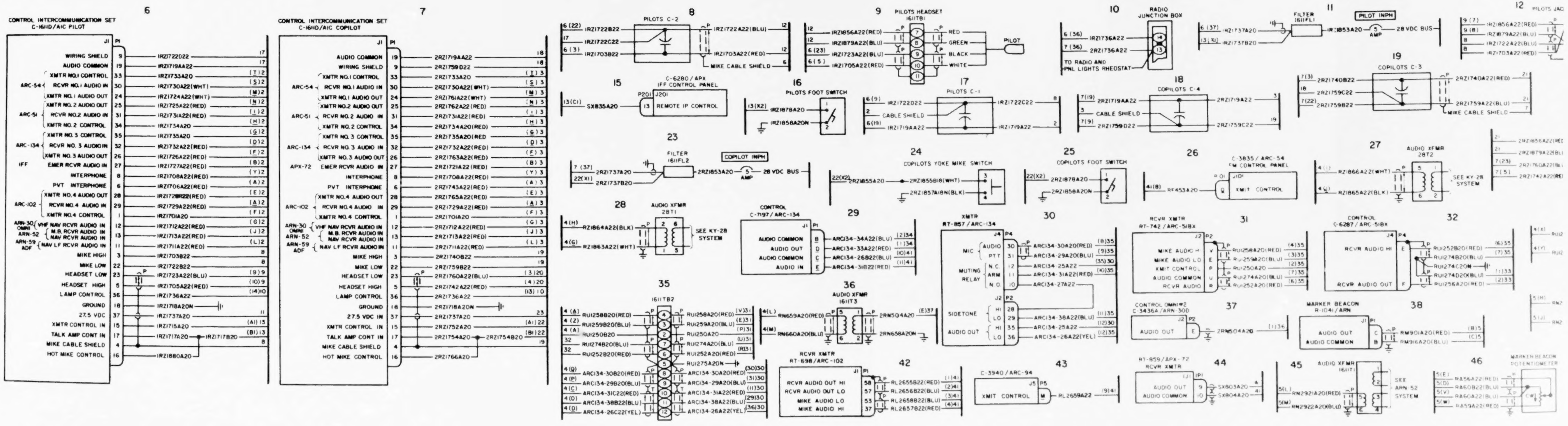

6
CONTROL INTERCOMMUNICATION SET C-1611D/AIC PILOT
7
CONTROL INTERCOMMUNICATION SET C-1611D/AIC COPILOT
8
PILOTS C-2
9
PILOTS HEADSET 1611TB1
10
RADIO JUNCTION BOX
TO RADIO AND PNL LIGHTS RHEOSTAT
11
FILTER 1611FL1
PILOT INPH
28 VDC BUS
12
PILOTS JAC
15
C-6280/APX IFF CONTROL PANEL
REMOTE IP CONTROL
16
PILOTS FOOT SWITCH
17
PILOTS C-1
18
COPILOTS C-4
19
COPILOTS C-3
23
FILTER 1611FL2
COPILOT INPH
28 VDC BUS
24
COPILOTS YOKE MIKE SWITCH
25
COPILOTS FOOT SWITCH
26
C-3835/ARC-54 FM CONTROL PANEL
XMIT CONTROL
27
AUDIO XFMR 28T2
SEE KY-28 SYSTEM
28
AUDIO XFMR 28T1
SEE KY-28 SYSTEM
29
CONTROL C-7197/ARC-134
30
XMTR RT-857/ARC-134
31
RCVR XMTR RT-742/ARC-51BX
32
CONTROL C-6287/ARC-51BX
35
1611TB2
36
AUDIO XFMR 1611T3
37
CONTROL OMNI#2 C-3436A/ARN-30D
38
MARKER BEACON R-1041/ARN
42
RCVR XMTR RT-698/ARC-102
43
C-3940/ARC-94
XMIT CONTROL
44
RT-859/APX-72 RCVR XMTR
45
AUDIO XFMR 1611T1
SEE ARN-52 SYSTEM
46
MARKER BEACON POTENTIOMETER

Figure 4-13(2). Interphone facility, configuration C, wiring diagram.
]

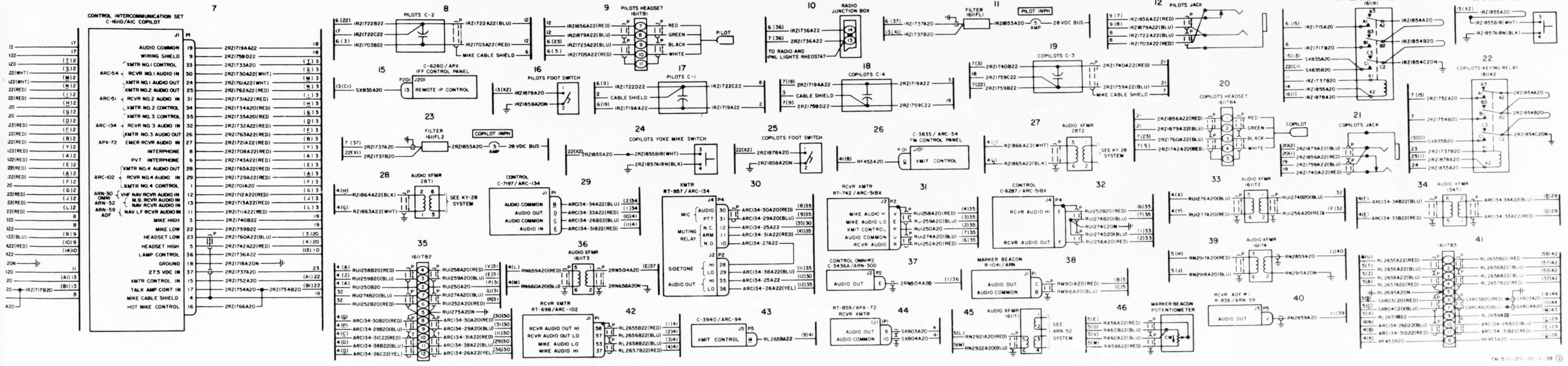

CONTROL INTERCOMMUNICATION SET C-1611D/AIC COPILOT
PILOTS C-2
PILOTS HEADSET 1611TB1
RADIO JUNCTION BOX
TO RADIO AND PNL LIGHTS RHEOSTAT
FILTER 1611FL1
PILOT INPH
28 VDC BUS
PILOTS JACK
PILOTS KEYING RELAY 1611K1
PILOTS YOKE MIKE SWITCH
C-6280/APX IFF CONTROL PANEL
REMOTE IP CONTROL
PILOTS FOOT SWITCH
COPILOTS C-1
COPILOTS C-4
COPILOTS C-3
COPILOTS HEADSET 1611TB4
COPILOTS KEYING RELAY 1611K2
COPILOTS JACK
FILTER 1611FL2
COPILOT INPH
COPILOTS YOKE MIKE SWITCH
COPILOTS FOOT SWITCH
C-3835/ARC-54 FM CONTROL PANEL
XMIT CONTROL
AUDIO XFMR 28T2
SEE KY 28 SYSTEM
AUDIO XFMR 28T1
SEE KY-28 SYSTEM
CONTROL C-7197/ARC-134
XMTR RT-857/ARC-134
RCVR XMTR RT-742/ARC-51BX
CONTROL C-6287/ARC-51BX
AUDIO XFMR 1611T2
AUDIO XFMR 1634T1
1611TB2
AUDIO XFMR 1611T3
CONTROL OMNI #2 C-3436A/ARN-300
MARKER BEACON R-1041/ARN
AUDIO XFMR 1611T4
1611TB3
RCVR XMTR RT-698/ARC-102
C-3940/ARC-94
RT-859/APX-72 RCVR XMTR
AUDIO XFMR 1611T1
SEE ARN-52 SYSTEM
MARKER BEACON POTENTIOMETER
RCVR ADF #1 R-836/ARN-59
TM 1510-201-20-C-38 (2)

Figure 4-13(2). Interphone facility, configuration C, wiring diagram.

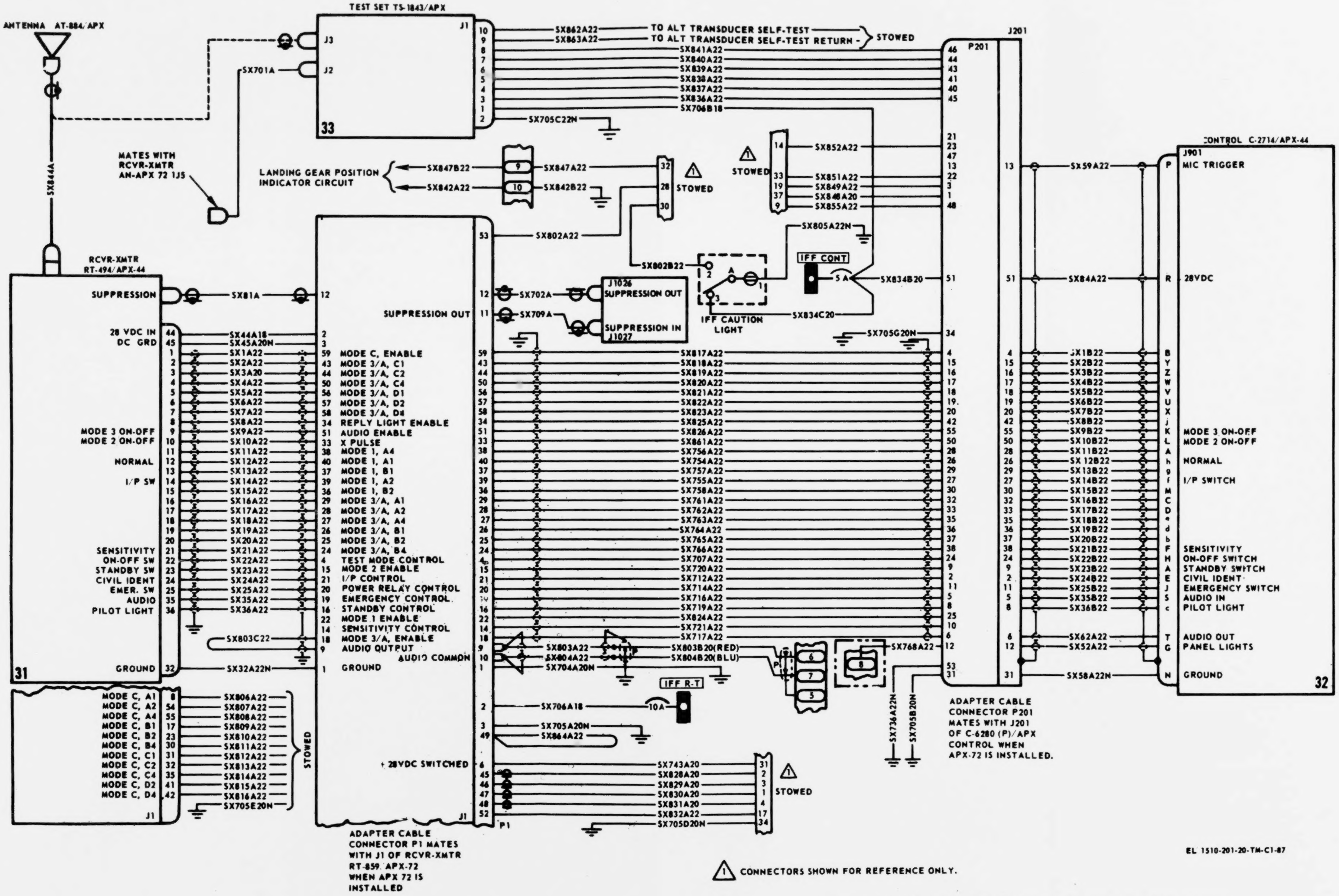
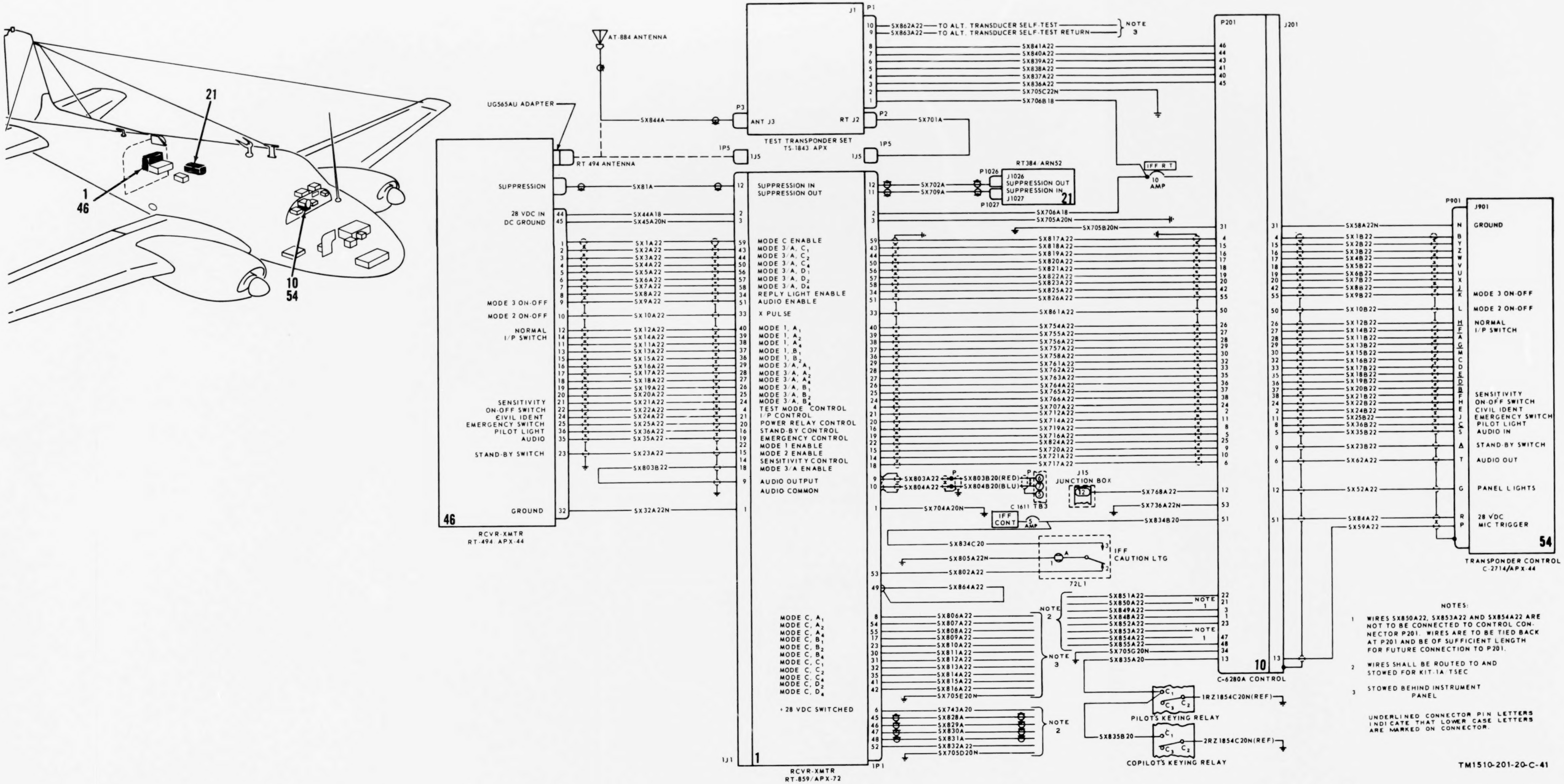

ANTENNA AT-884/APX
SX844A
TEST SET TS-1843/APX
J1
J2
J3
SX701A
33
SX862A22 TO ALT TRANSDUCER SELF-TEST
SX863A22 TO ALT TRANSDUCER SELF-TEST RETURN
STOWED
SX841A22
SX840A22
SX839A22
SX838A22
SX837A22
SX836A22
SX706B18
SX705C22N
J201
P201
MATES WITH RCVR-XMTR AN-APX 72 1J5
LANDING GEAR POSITION INDICATOR CIRCUIT
SX847B22
SX842A22
SX847A22
SX842B22
STOWED
SX852A22
SX851A22
SX849A22
SX848A20
SX855A22
SX805A22N
SX802A22
SX802B22
IFF CONT
5 A
SX834B20
SX834C20
IFF CAUTION LIGHT
RCVR-XMTR RT-494/APX-44
SUPPRESSION
SX81A
SUPPRESSION OUT
SX702A
SX709A
J1026 SUPPRESSION OUT
SUPPRESSION IN J1027
SX705G20N
28 VDC IN
DC GRD
SX44A18
SX45A20N
MODE C, ENABLE
MODE 3/A, C1
MODE 3/A, C2
MODE 3/A, C4
MODE 3/A, D1
MODE 3/A, D2
MODE 3/A, D4
REPLY LIGHT ENABLE
AUDIO ENABLE
X PULSE
MODE 1, A4
MODE 1, A1
MODE 1, B1
MODE 1, A2
MODE 1, B2
MODE 3/A, A1
MODE 3/A, A2
MODE 3/A, A4
MODE 3/A, B1
MODE 3/A, B2
MODE 3/A, B4
TEST MODE CONTROL
MODE 2 ENABLE
I/P CONTROL
POWER RELAY CONTROL
EMERGENCY CONTROL
STANDBY CONTROL
MODE 1 ENABLE
SENSITIVITY CONTROL
MODE 3/A, ENABLE
AUDIO OUTPUT
AUDIO COMMON
GROUND
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SW
SENSITIVITY
ON-OFF SW
STANDBY SW
CIVIL IDENT
EMER. SW
AUDIO
PILOT LIGHT
GROUND
31
SX1A22 – SX36A22
SX803C22
SX32A22N
SX817A22
SX818A22
SX819A22
SX820A22
SX821A22
SX822A22
SX823A22
SX825A22
SX826A22
SX861A22
SX756A22
SX754A22
SX757A22
SX755A22
SX758A22
SX761A22
SX762A22
SX763A22
SX764A22
SX765A22
SX766A22
SX707A22
SX720A22
SX712A22
SX714A22
SX716A22
SX719A22
SX824A22
SX721A22
SX717A22
SX803A22
SX804A22
SX704A20N
SX803B20(RED)
SX804B20(BLU)
SX768A22
IFF R-T
10A
SX706A18
SX705A20N
SX864A22
+28VDC SWITCHED
SX743A20
SX828A20
SX829A20
SX830A20
SX831A20
SX832A22
SX705D20N
STOWED
SX736A22N
SX705B20N
P1
MODE C, A1
MODE C, A2
MODE C, A4
MODE C, B1
MODE C, B2
MODE C, B4
MODE C, C1
MODE C, C2
MODE C, C4
MODE C, D2
MODE C, D4
SX806A22 – SX816A22
SX705E20N
STOWED
J1
CONTROL C-2714/APX-44
J901
MIC TRIGGER
SX59A22
28VDC
SX84A22
SX1B22 – SX36B22
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SWITCH
SENSITIVITY
ON-OFF SWITCH
STANDBY SWITCH
CIVIL IDENT
EMERGENCY SWITCH
AUDIO IN
PILOT LIGHT
AUDIO OUT
PANEL LIGHTS
GROUND
SX62A22
SX52A22
SX58A22N
32
ADAPTER CABLE CONNECTOR P201 MATES WITH J201 OF C-6280 (P)/APX CONTROL WHEN APX-72 IS INSTALLED.
ADAPTER CABLE CONNECTOR P1 MATES WITH J1 OF RCVR-XMTR RT-859 APX-72 WHEN APX 72 IS INSTALLED
CONNECTORS SHOWN FOR REFERENCE ONLY.
EL 1510-201-20-TM-C1-87

Figure 4-15. IFF transponder facility, configuration B, wiring diagram.


21
1
46
10
54
AT-884 ANTENNA
UG565AU ADAPTER
RT 494 ANTENNA
SX844A
TEST TRANSPONDER SET
TS-1843 APX
J1
P1
P2
P3
ANT J3
RT J2
SX862A22—TO ALT. TRANSDUCER SELF-TEST
SX863A22—TO ALT. TRANSDUCER SELF-TEST RETURN
NOTE 3
SX841A22
SX840A22
SX839A22
SX838A22
SX837A22
SX836A22
SX705C22N
SX706B18
SX701A
1P5
1J5
IFF R T
10 AMP
RT384/ARN52
P1026
J1026
P1027
J1027
SUPPRESSION OUT
SUPPRESSION IN
SX702A
SX709A
SX706A18
SX705A20N
SX705B20N
SUPPRESSION
28 VDC IN
DC GROUND
SX81A
SX44A18
SX45A20N
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SWITCH
SENSITIVITY
ON-OFF SWITCH
CIVIL IDENT
EMERGENCY SWITCH
PILOT LIGHT
AUDIO
STAND-BY SWITCH
GROUND
SX32A22N
SX803B22
46
RCVR-XMTR
RT-494 APX-44
SUPPRESSION IN
SUPPRESSION OUT
MODE C ENABLE
REPLY LIGHT ENABLE
AUDIO ENABLE
X PULSE
TEST MODE CONTROL
I/P CONTROL
POWER RELAY CONTROL
STAND-BY CONTROL
EMERGENCY CONTROL
MODE 1 ENABLE
MODE 2 ENABLE
SENSITIVITY CONTROL
MODE 3/A ENABLE
AUDIO OUTPUT
AUDIO COMMON
+28 VDC SWITCHED
1J1
1
RCVR-XMTR
RT-859/APX-72
1P1
SX803A22
SX804A22
SX803B20(RED)
SX804B20(BLU)
J15
JUNCTION BOX
C 1611 TB3
SX768A22
SX736A22N
SX834B20
SX704A20N
IFF CONT
5 AMP
SX834C20
SX805A22N
SX802A22
IFF
CAUTION LTG
72L1
SX864A22
NOTE 1
NOTE 2
NOTE 3
SX705G20N
SX835A20
SX835B20
SX705E20N
SX705D20N
SX743A20
1RZ1854C20N(REF)
2RZ1854C20N(REF)
PILOTS KEYING RELAY
COPILOTS KEYING RELAY
P201
J201
10
C-6280A CONTROL
P901
J901
GROUND
MODE 3 ON-OFF
MODE 2 ON-OFF
NORMAL
I/P SWITCH
SENSITIVITY
ON-OFF SWITCH
CIVIL IDENT
EMERGENCY SWITCH
PILOT LIGHT
AUDIO IN
STAND-BY SWITCH
AUDIO OUT
PANEL LIGHTS
28 VDC
MIC TRIGGER
54
TRANSPONDER CONTROL
C-2714/APX-44
TM1510-201-20-C-41

NOTES:

1 WIRES SX850A22, SX853A22 AND SX854A22 ARE NOT TO BE CONNECTED TO CONTROL CONNECTOR P201. WIRES ARE TO BE TIED BACK AT P201 AND BE OF SUFFICIENT LENGTH FOR FUTURE CONNECTION TO P201.

2 WIRES SHALL BE ROUTED TO AND STOWED FOR KIT-1A/TSEC

3 STOWED BEHIND INSTRUMENT PANEL

UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR.

Figure 4-16. IFF transponder facility, configuration C, wiring diagram.

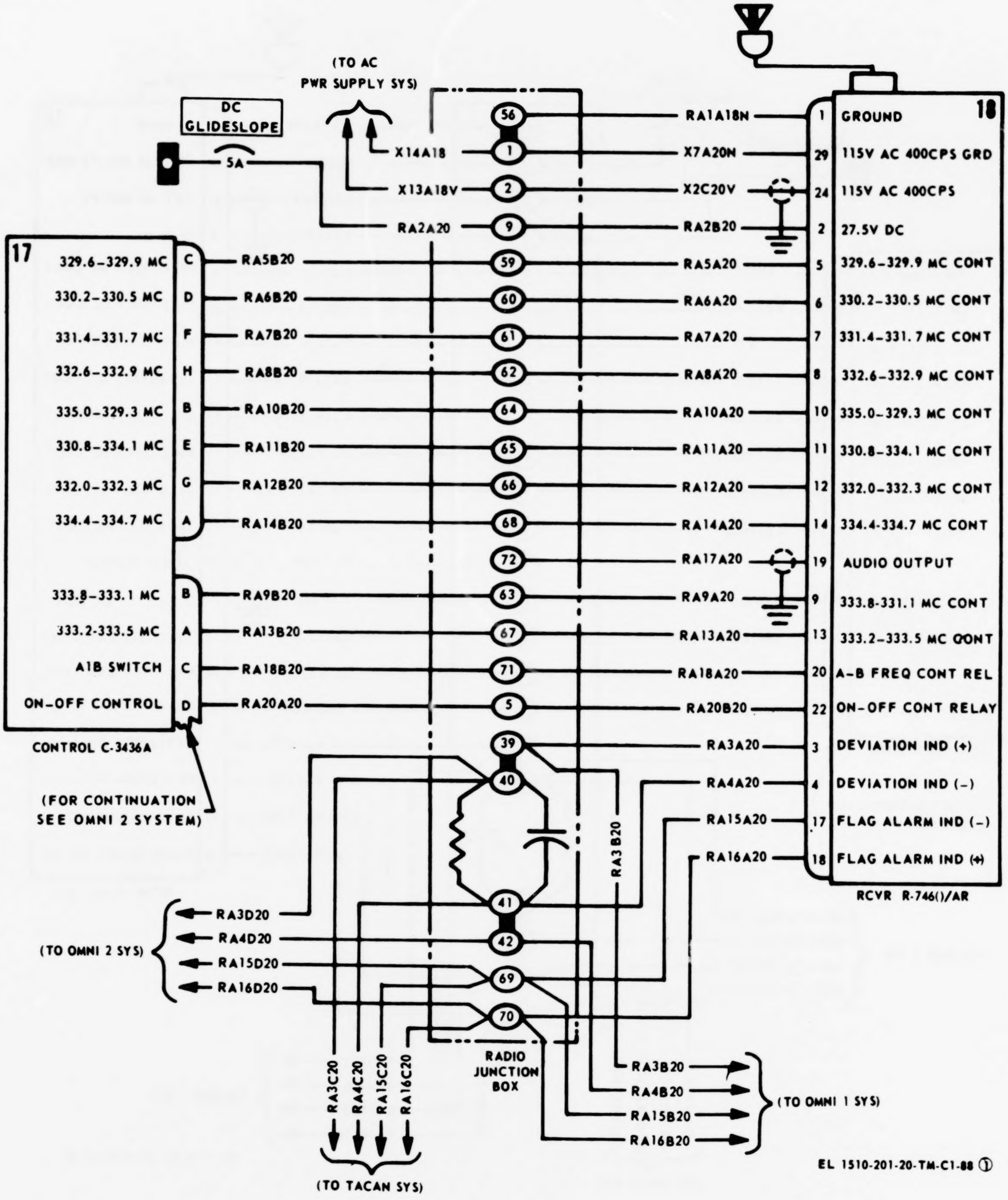

(TO AC PWR SUPPLY SYS)
DC GLIDESLOPE
5A
X14A18
X13A18V
RA2A20
17
329.6-329.9 MC
330.2-330.5 MC
331.4-331.7 MC
332.6-332.9 MC
335.0-329.3 MC
330.8-334.1 MC
332.0-332.3 MC
334.4-334.7 MC
333.8-333.1 MC
333.2-333.5 MC
A1B SWITCH
ON-OFF CONTROL
C D F H B E G A
B A C D
RA5B20
RA6B20
RA7B20
RA8B20
RA10B20
RA11B20
RA12B20
RA14B20
RA9B20
RA13B20
RA18B20
RA20A20
CONTROL C-3436A
(FOR CONTINUATION SEE OMNI 2 SYSTEM)
56
1
2
9
59
60
61
62
64
65
66
68
72
63
67
71
5
39
40
41
42
69
70
RADIO JUNCTION BOX
RA1A18N
X7A20N
X2C20V
RA2B20
RA5A20
RA6A20
RA7A20
RA8A20
RA10A20
RA11A20
RA12A20
RA14A20
RA17A20
RA9A20
RA13A20
RA18A20
RA20B20
RA3A20
RA4A20
RA15A20
RA16A20
RA3B20
18
1 GROUND
29 115V AC 400CPS GRD
24 115V AC 400CPS
2 27.5V DC
5 329.6-329.9 MC CONT
6 330.2-330.5 MC CONT
7 331.4-331.7 MC CONT
8 332.6-332.9 MC CONT
10 335.0-329.3 MC CONT
11 330.8-334.1 MC CONT
12 332.0-332.3 MC CONT
14 334.4-334.7 MC CONT
19 AUDIO OUTPUT
9 333.8-331.1 MC CONT
13 333.2-333.5 MC CONT
20 A-B FREQ CONT REL
22 ON-OFF CONT RELAY
3 DEVIATION IND (+)
4 DEVIATION IND (-)
17 FLAG ALARM IND (-)
18 FLAG ALARM IND (+)
RCVR R-746()/AR
(TO OMNI 2 SYS)
RA3D20
RA4D20
RA15D20
RA16D20
RA3C20
RA4C20
RA15C20
RA16C20
(TO TACAN SYS)
RA3B20
RA4B20
RA15B20
RA16B20
(TO OMNI 1 SYS)
EL 1510-201-20-TM-C1-88 ①

Figure 4-17①. ILS radio receiving circuit R-746/AR, configuration A, wiring diagram (sheet 1 of 2).

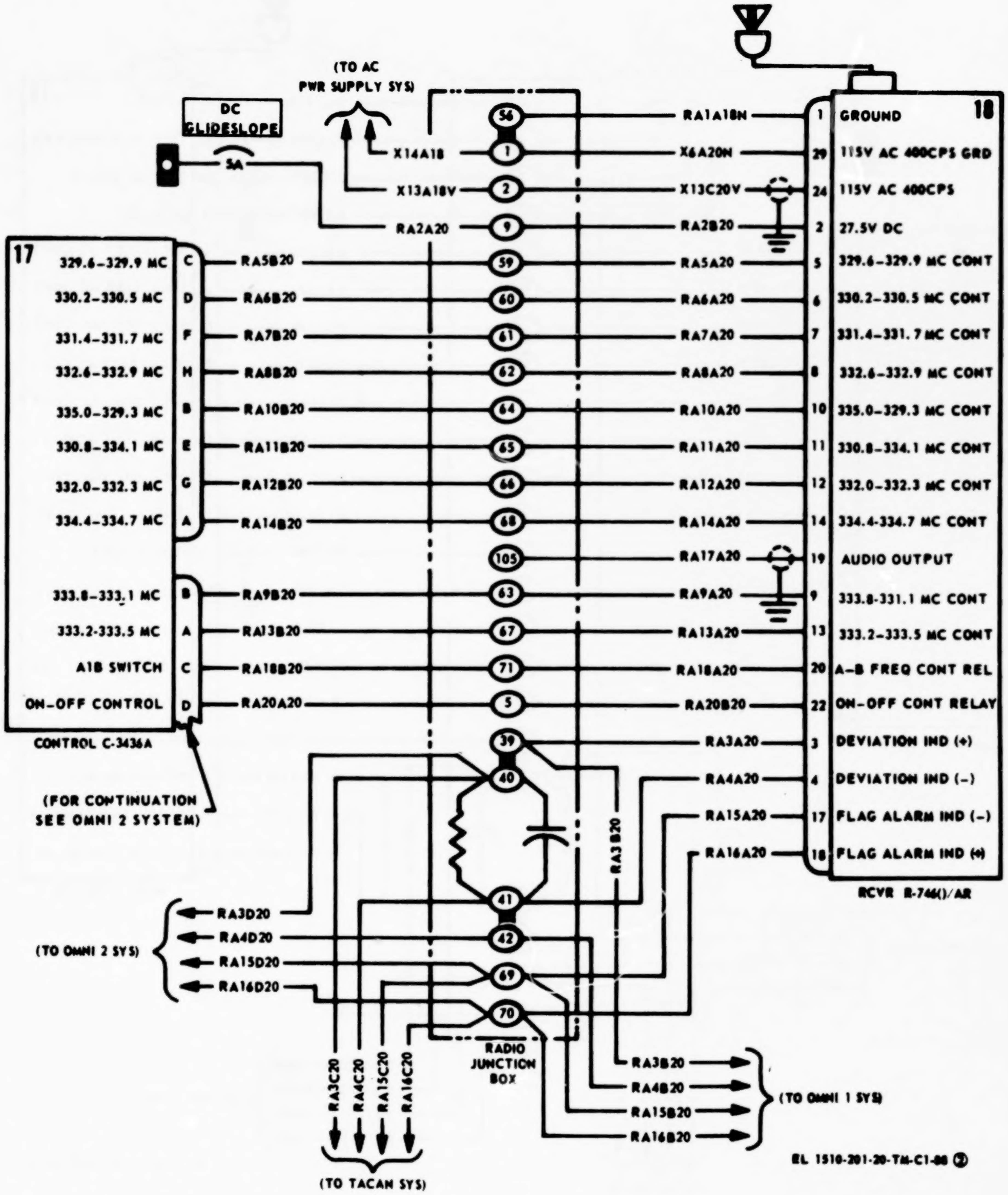
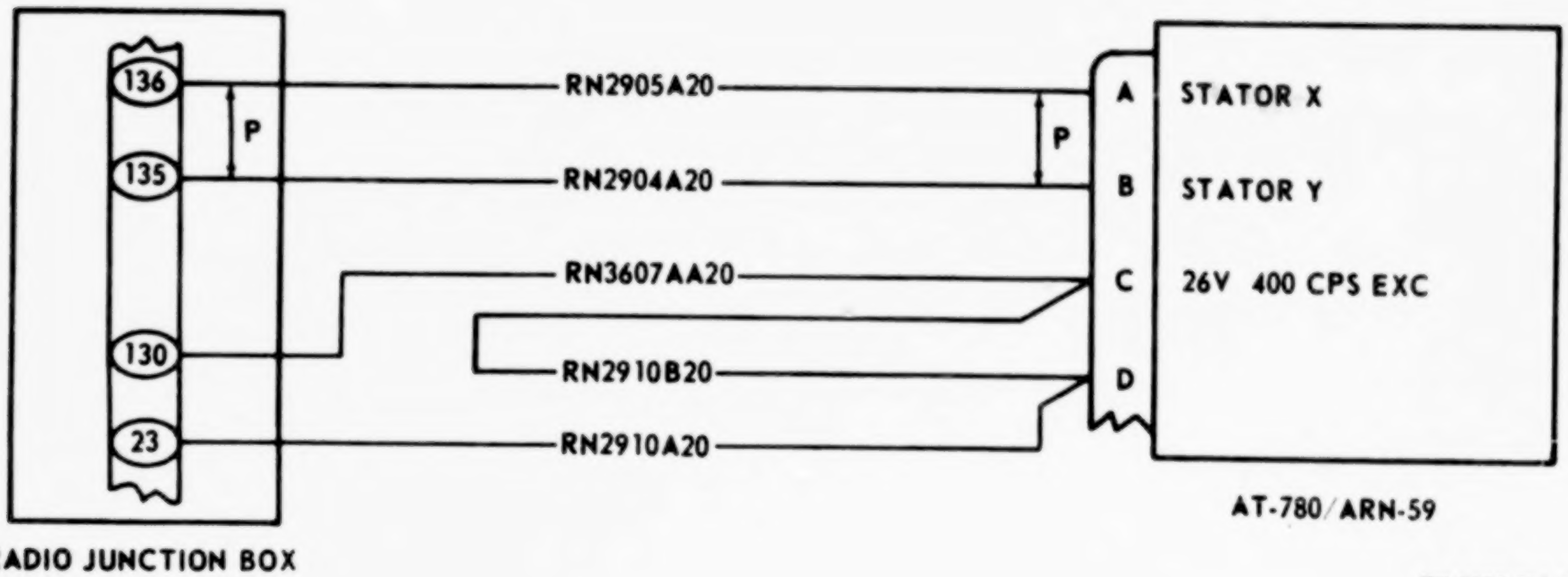
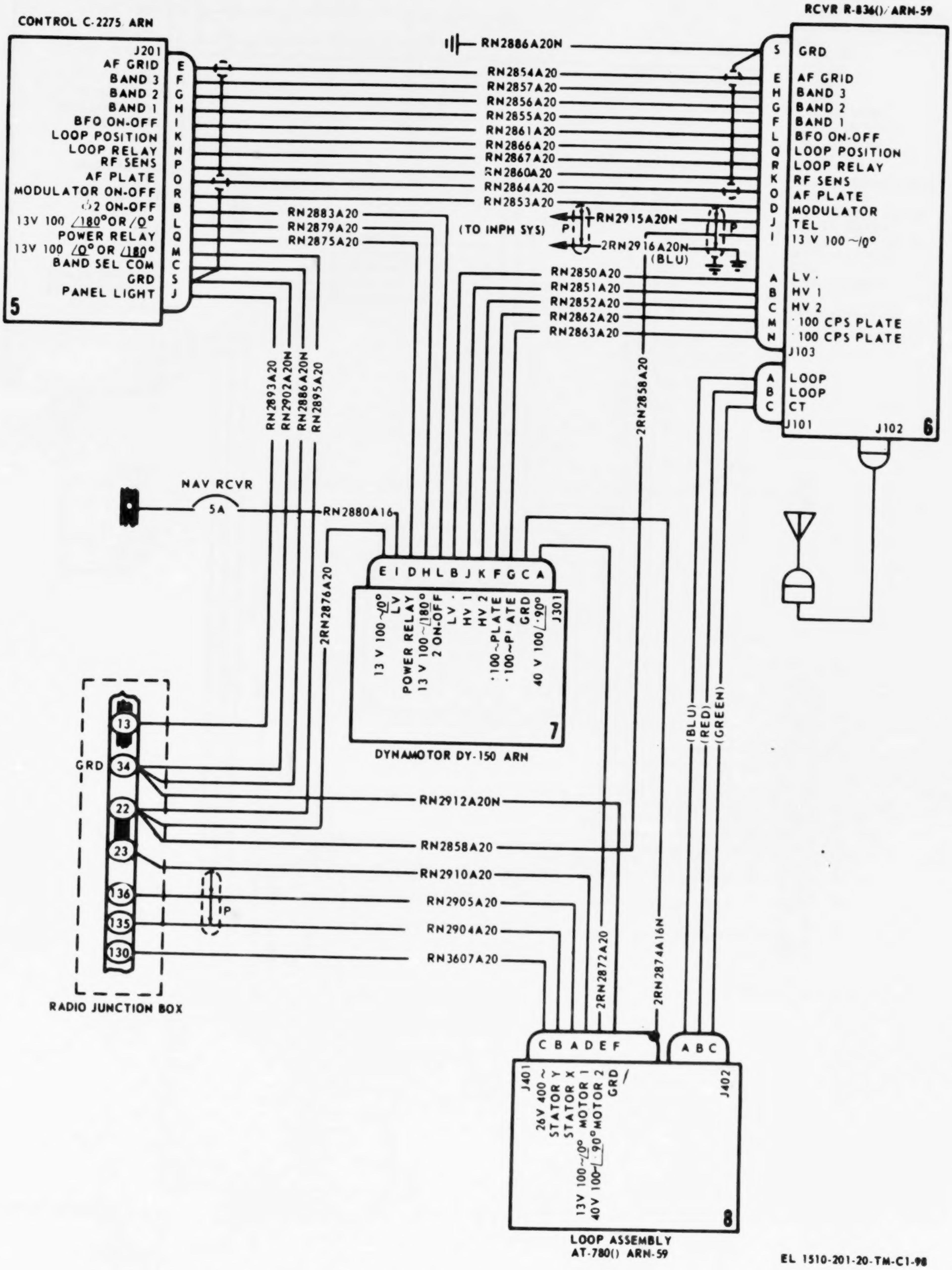

(TO AC
PWR SUPPLY SYS)
DC
GLIDESLOPE
5A
X14A18
X13A18V
RA2A20
17
329.6-329.9 MC
330.2-330.5 MC
331.4-331.7 MC
332.6-332.9 MC
335.0-329.3 MC
330.8-334.1 MC
332.0-332.3 MC
334.4-334.7 MC
333.8-333.1 MC
333.2-333.5 MC
A1B SWITCH
ON-OFF CONTROL
C
D
F
H
B
E
G
A
B
A
C
D
CONTROL C-3436A
(FOR CONTINUATION
SEE OMNI 2 SYSTEM)
RA5B20
RA6B20
RA7B20
RA8B20
RA10B20
RA11B20
RA12B20
RA14B20
RA9B20
RA13B20
RA18B20
RA20A20
56
1
2
9
59
60
61
62
64
65
66
68
105
63
67
71
5
39
40
41
42
69
70
RADIO
JUNCTION
BOX
RA1A18N
X6A20N
X13C20V
RA2B20
RA5A20
RA6A20
RA7A20
RA8A20
RA10A20
RA11A20
RA12A20
RA14A20
RA17A20
RA9A20
RA13A20
RA18A20
RA20B20
RA3A20
RA4A20
RA15A20
RA16A20
RA3B20
1
29
24
2
5
6
7
8
10
11
12
14
19
9
13
20
22
3
4
17
18
GROUND
115V AC 400CPS GRD
115V AC 400CPS
27.5V DC
329.6-329.9 MC CONT
330.2-330.5 MC CONT
331.4-331.7 MC CONT
332.6-332.9 MC CONT
335.0-329.3 MC CONT
330.8-334.1 MC CONT
332.0-332.3 MC CONT
334.4-334.7 MC CONT
AUDIO OUTPUT
333.8-331.1 MC CONT
333.2-333.5 MC CONT
A-B FREQ CONT REL
ON-OFF CONT RELAY
DEVIATION IND (+)
DEVIATION IND (-)
FLAG ALARM IND (-)
FLAG ALARM IND (+)
18
RCVR R-746()/AR
RA3D20
RA4D20
RA15D20
RA16D20
(TO OMNI 2 SYS)
RA3C20
RA4C20
RA15C20
RA16C20
(TO TACAN SYS)
RA3B20
RA4B20
RA15B20
RA16B20
(TO OMNI 1 SYS)
EL 1510-201-20-TM-C1-88 ②

Figure 4-17②. ILS radio receiving circuit R-746/AR, configuration A, wiring diagram (sheet 2 of 2).


136
135
130
23
P
RN2905A20
RN2904A20
RN3607AA20
RN2910B20
RN2910A20
P
A
B
C
D
STATOR X
STATOR Y
26V 400 CPS EXC
AT-780/ARN-59
RADIO JUNCTION BOX

TM 1510-201-20-C-53

Figure 4-28. ADF navigation facility, configuration C, wiring diagram.


CONTROL C-2275 ARN
J201
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR ON-OFF
Φ2 ON-OFF
13V 100 ∠180° OR ∠0°
POWER RELAY
13V 100 ∠0° OR ∠180°
BAND SEL COM
GRD
PANEL LIGHT
E F G H I K N P O R B L Q M C S J
5
RN2886A20N
RN2854A20
RN2857A20
RN2856A20
RN2855A20
RN2861A20
RN2866A20
RN2867A20
RN2860A20
RN2864A20
RN2853A20
RN2883A20
RN2879A20
RN2875A20
(TO INPH SYS)
P
RN2915A20N
2RN2916A20N
(BLU)
P
RN2850A20
RN2851A20
RN2852A20
RN2862A20
RN2863A20
RCVR R-836()/ARN-59
S GRD
E AF GRID
H BAND 3
G BAND 2
F BAND 1
L BFO ON-OFF
Q LOOP POSITION
R LOOP RELAY
K RF SENS
O AF PLATE
D MODULATOR
J TEL
I 13 V 100 ~/0°
A LV
B HV 1
C HV 2
M 100 CPS PLATE
N 100 CPS PLATE
J103
A LOOP
B LOOP
C CT
J101
J102
6
RN2893A20
RN2902A20N
RN2886A20N
RN2895A20
2RN2858A20
NAV RCVR
5A
RN2880A16
2RN2876A20
E I D H L B J K F G C A
13 V 100 ~/0°
LV
POWER RELAY
13 V 100 ~/180°
2 ON-OFF
LV
HV 1
HV 2
100 ~PLATE
100 ~PLATE
GRD
40 V 100 /90°
J301
7
DYNAMOTOR DY-150 ARN
GRD
13
34
22
23
136
135
130
RADIO JUNCTION BOX
RN2912A20N
RN2858A20
RN2910A20
RN2905A20
RN2904A20
RN3607A20
P
2RN2872A20
2RN2874A16N
(BLU)
(RED)
(GREEN)
C B A D E F
A B C
J401
26V 400 ~
STATOR Y
STATOR X
13V 100 ~/0° MOTOR 1
40V 100 /90° MOTOR 2
GRD
J402
8
LOOP ASSEMBLY
AT-780() ARN-59

EL 1510-201-20-TM-C1-98

Figure 4–28.1 ADF navigation facility, ADF No. 1, configuration A, wiring diagram.

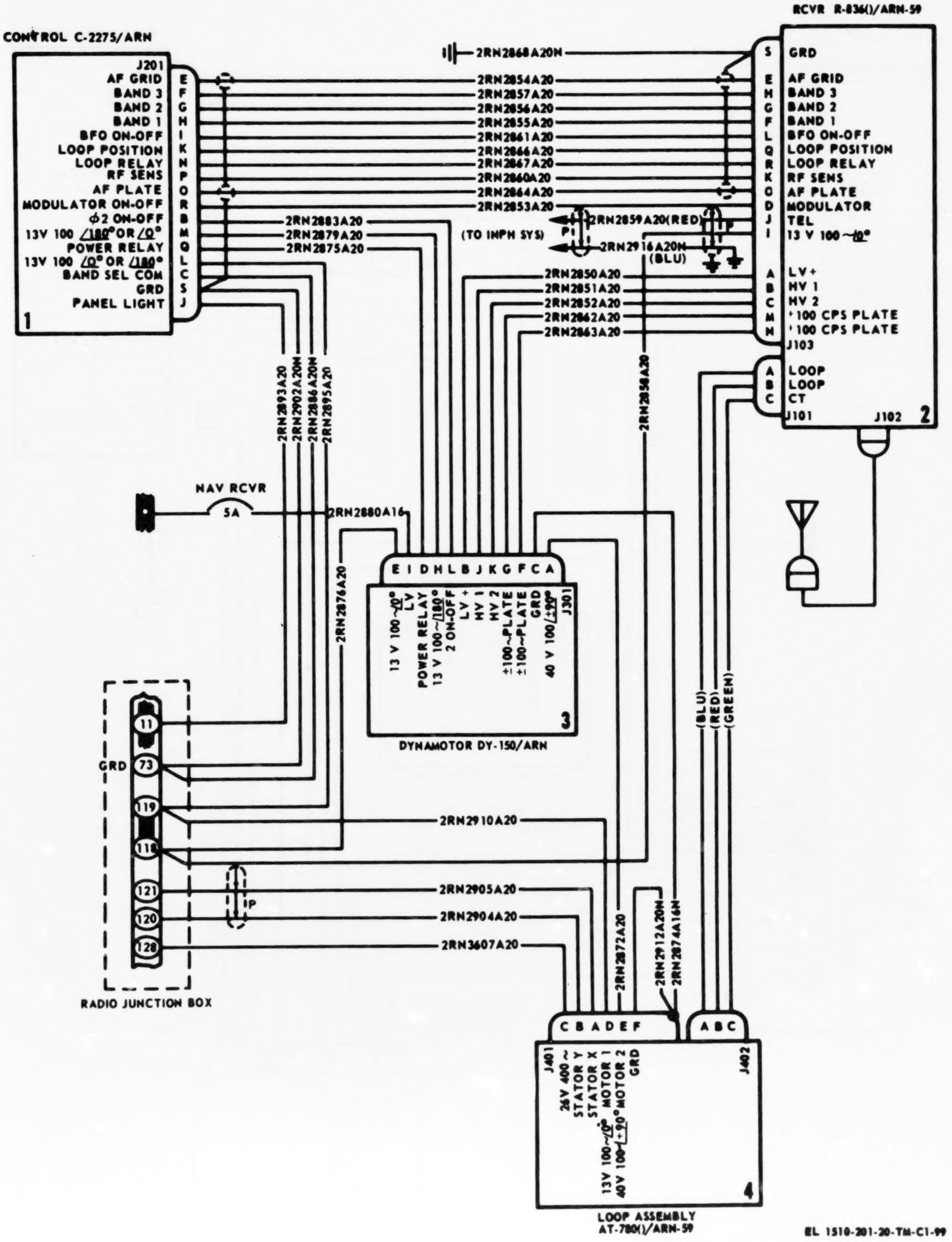
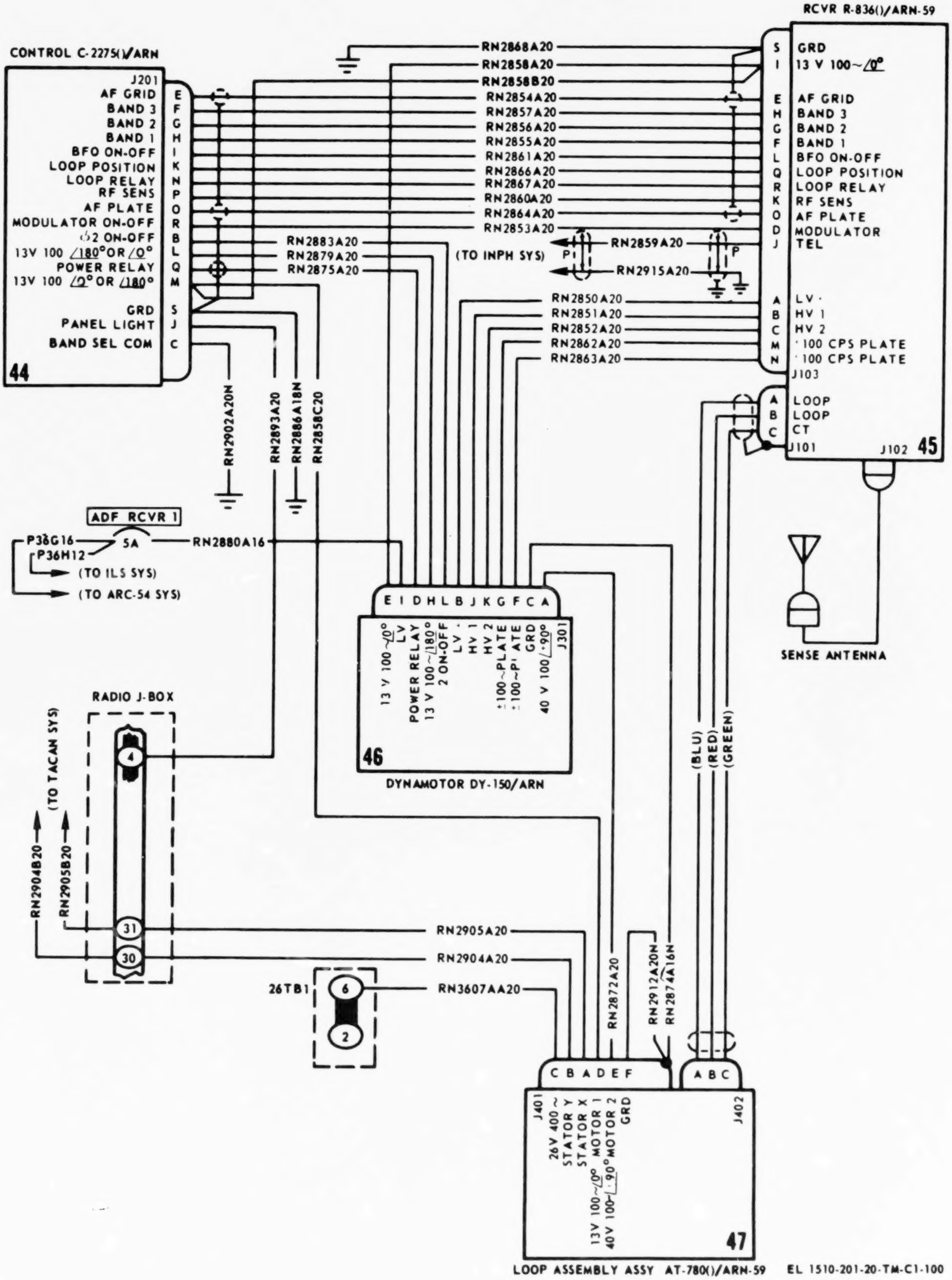

CONTROL C-2275/ARN
J201
AF GRID E
BAND 3 F
BAND 2 G
BAND 1 H
BFO ON-OFF I
LOOP POSITION K
LOOP RELAY N
RF SENS P
AF PLATE O
MODULATOR ON-OFF R
ϕ2 ON-OFF B
13V 100 /180° OR /0° M
POWER RELAY Q
13V 100 /0° OR /180° L
BAND SEL COM C
GRD S
PANEL LIGHT J
1
2RN2868A20N
2RN2854A20
2RN2857A20
2RN2856A20
2RN2855A20
2RN2861A20
2RN2866A20
2RN2867A20
2RN2860A20
2RN2864A20
2RN2853A20
2RN2883A20
2RN2879A20
2RN2875A20
(TO INPH SYS)
P1
2RN2859A20(RED)
2RN2916A20N
(BLU)
P
2RN2850A20
2RN2851A20
2RN2852A20
2RN2862A20
2RN2863A20
RCVR R-836()/ARN-59
S GRD
E AF GRID
H BAND 3
G BAND 2
F BAND 1
L BFO ON-OFF
Q LOOP POSITION
R LOOP RELAY
K RF SENS
O AF PLATE
D MODULATOR
J TEL
I 13 V 100~/0°
A LV+
B HV 1
C HV 2
M +100 CPS PLATE
N +100 CPS PLATE
J103
A LOOP
B LOOP
C CT
J101
J102
2
2RN2893A20
2RN2902A20N
2RN2886A20N
2RN2895A20
2RN2858A20
NAV RCVR
5A
2RN2880A16
2RN2876A20
E I D H L B J K G F C A
13 V 100~/0°
LV
POWER RELAY
13 V 100~/180°
2 ON-OFF
LV +
HV 1
HV 2
±100~PLATE
±100~PLATE
GRD
40 V 100/±90°
J301
3
DYNAMOTOR DY-150/ARN
(BLU)
(RED)
(GREEN)
GRD
11
73
119
118
121
120
128
P
RADIO JUNCTION BOX
2RN2910A20
2RN2905A20
2RN2904A20
2RN3607A20
2RN2872A20
2RN2912A20N
2RN2874A16N
C B A D E F
A B C
J401
26V 400~
STATOR Y
STATOR X
13V 100~/0° MOTOR 1
40V 100/+90° MOTOR 2
GRD
J402
4
LOOP ASSEMBLY
AT-780()/ARN-59
EL 1510-201-20-TM-C1-99

Figure 4-28.2 ADF navigation facility, ADF No. 2, configuration A, wiring diagram.


RCVR R-836()/ARN-59
CONTROL C-2275()/ARN
J201
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR ON-OFF
Ф2 ON-OFF
13V 100 /180° OR /0°
POWER RELAY
13V 100 /0° OR /180°
GRD
PANEL LIGHT
BAND SEL COM
E F G H I K N P O R B L Q M S J C
44
RN2868A20
RN2858A20
RN2858B20
RN2854A20
RN2857A20
RN2856A20
RN2855A20
RN2861A20
RN2866A20
RN2867A20
RN2860A20
RN2864A20
RN2853A20
RN2883A20
RN2879A20
RN2875A20
(TO INPH SYS)
P1
RN2859A20
RN2915A20
P
RN2850A20
RN2851A20
RN2852A20
RN2862A20
RN2863A20
S I E H G F L Q R K O D J
GRD
13 V 100~/0°
AF GRID
BAND 3
BAND 2
BAND 1
BFO ON-OFF
LOOP POSITION
LOOP RELAY
RF SENS
AF PLATE
MODULATOR
TEL
A B C M N
LV
HV 1
HV 2
100 CPS PLATE
100 CPS PLATE
J103
A B C
LOOP
LOOP
CT
J101
J102
45
RN2902A20N
RN2893A20
RN2886A18N
RN2858C20
ADF RCVR 1
P36G16
P36H12
5A
RN2880A16
(TO ILS SYS)
(TO ARC-54 SYS)
E I D H L B J K G F C A
13 V 100~/0°
LV
POWER RELAY
13 V 100~/180°
Ф2 ON-OFF
LV
HV 1
HV 2
±100~PLATE
±100~PLATE
GRD
40 V 100/-90°
J301
46
DYNAMOTOR DY-150/ARN
SENSE ANTENNA
RADIO J-BOX
4
31
30
(TO TACAN SYS)
RN2904B20
RN2905B20
(BLU)
(RED)
(GREEN)
RN2905A20
RN2904A20
26TB1
6
2
RN3607AA20
RN2872A20
RN2912A20N
RN2874A16N
C B A D E F
A B C
J401
26V 400~
STATOR Y
STATOR X
13V 100~/0° MOTOR 1
40V 100~/-90° MOTOR 2
GRD
J402
47
LOOP ASSEMBLY ASSY AT-780()/ARN-59

EL 1510-201-20-TM-C1-100

Figure 4–29. ADF navigation facility, ADF No. 1, configuration B, wiring diagram.

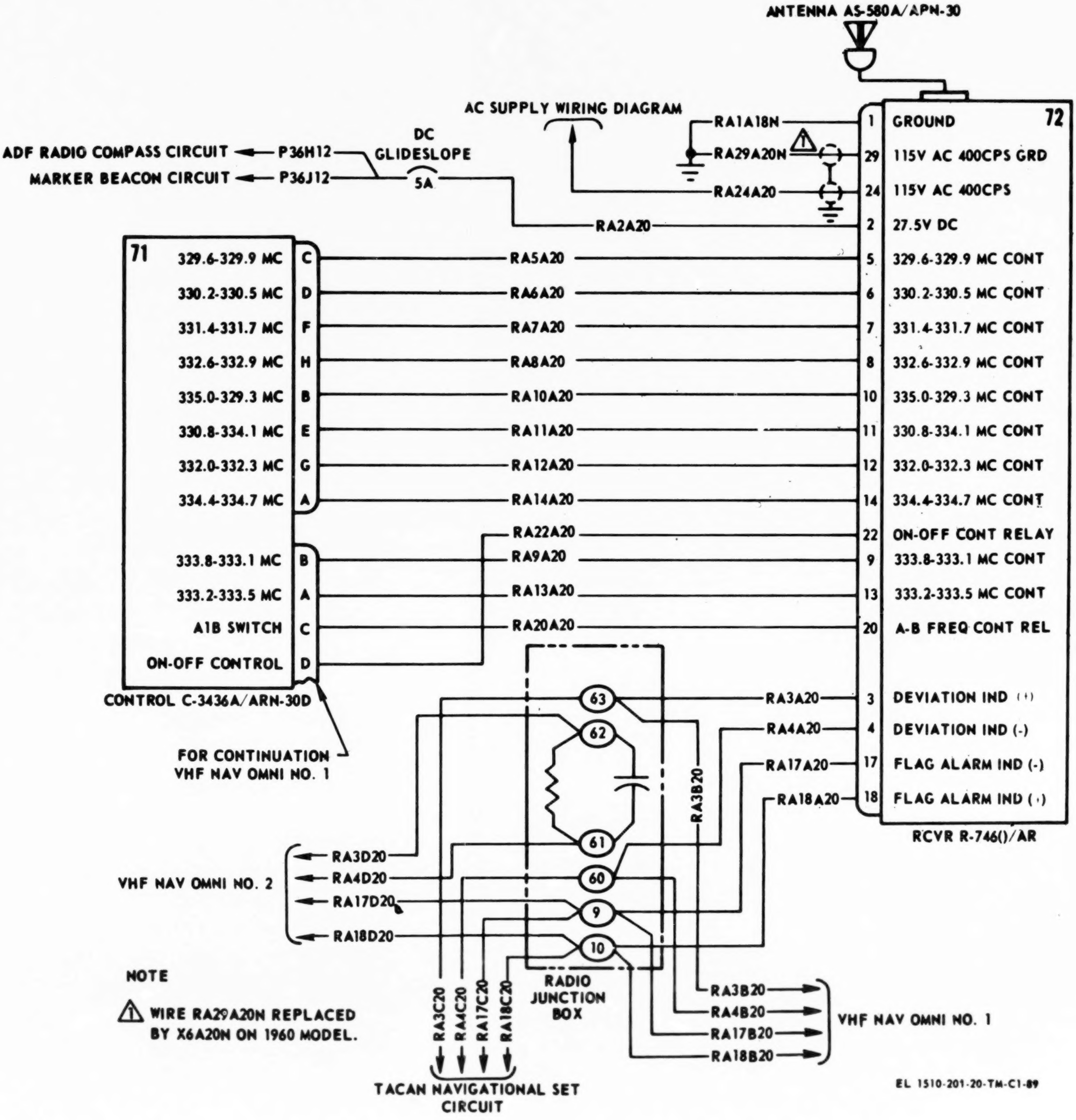
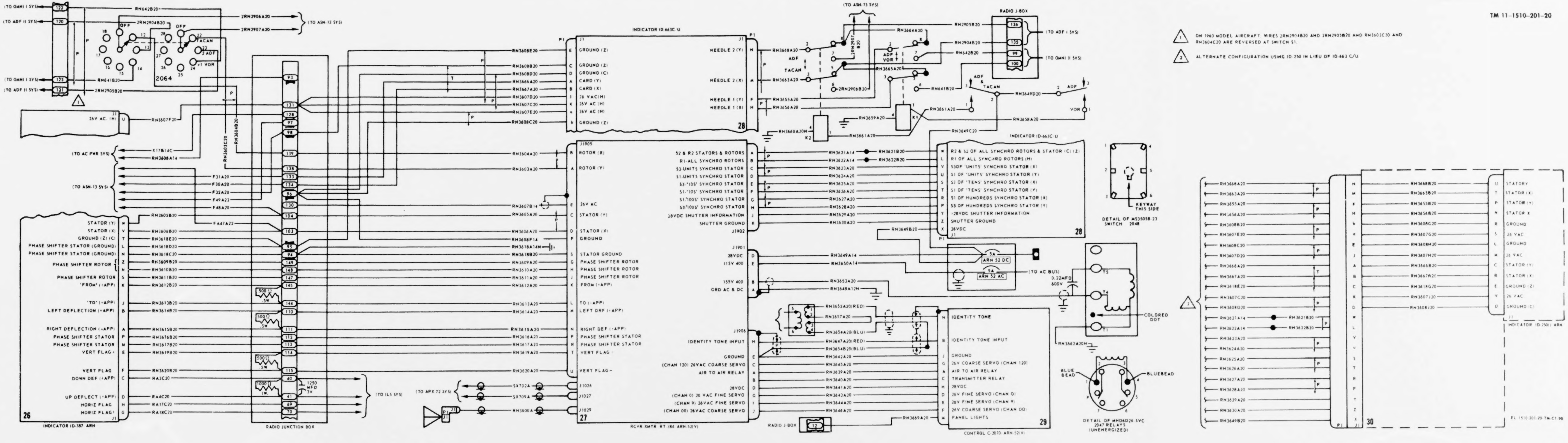

ANTENNA AS-580A/APN-30
AC SUPPLY WIRING DIAGRAM
DC GLIDESLOPE
5A
ADF RADIO COMPASS CIRCUIT
P36H12
MARKER BEACON CIRCUIT
P36J12
RA1A18N
RA29A20N
RA24A20
RA2A20
72
1 GROUND
29 115V AC 400CPS GRD
24 115V AC 400CPS
2 27.5V DC
5 329.6-329.9 MC CONT
6 330.2-330.5 MC CONT
7 331.4-331.7 MC CONT
8 332.6-332.9 MC CONT
10 335.0-329.3 MC CONT
11 330.8-334.1 MC CONT
12 332.0-332.3 MC CONT
14 334.4-334.7 MC CONT
22 ON-OFF CONT RELAY
9 333.8-333.1 MC CONT
13 333.2-333.5 MC CONT
20 A-B FREQ CONT REL
3 DEVIATION IND (+)
4 DEVIATION IND (-)
17 FLAG ALARM IND (-)
18 FLAG ALARM IND (+)
RCVR R-746()/AR
71
329.6-329.9 MC C
330.2-330.5 MC D
331.4-331.7 MC F
332.6-332.9 MC H
335.0-329.3 MC B
330.8-334.1 MC E
332.0-332.3 MC G
334.4-334.7 MC A
333.8-333.1 MC B
333.2-333.5 MC A
A1B SWITCH C
ON-OFF CONTROL D
CONTROL C-3436A/ARN-30D
FOR CONTINUATION VHF NAV OMNI NO. 1
RA5A20
RA6A20
RA7A20
RA8A20
RA10A20
RA11A20
RA12A20
RA14A20
RA22A20
RA9A20
RA13A20
RA20A20
RA3A20
RA4A20
RA17A20
RA18A20
RA3B20
63
62
61
60
9
10
RADIO JUNCTION BOX
VHF NAV OMNI NO. 2
RA3D20
RA4D20
RA17D20
RA18D20
RA3C20
RA4C20
RA17C20
RA18C20
TACAN NAVIGATIONAL SET CIRCUIT
RA3B20
RA4B20
RA17B20
RA18B20
VHF NAV OMNI NO. 1
NOTE
⚠1 WIRE RA29A20N REPLACED BY X6A20N ON 1960 MODEL.
EL 1510-201-20-TM-C1-89

Figure 4-18. ILS radio receiving circuit R-746/AR configuration B, wiring diagram.


(TO OMNI I SYS)
(TO ADF II SYS)
(TO ASH-13 SYS)
(TO AC PWR SYS)
OFF
TACAN
2 ADF
#1 VOR
2064
26V AC. (H)
INDICATOR ID-663C/U
GROUND (Z)
GROUND (C)
CARD (Y)
CARD (X)
26 VAC(H)
26V AC (H)
NEEDLE 2 (Y)
NEEDLE 2 (X)
NEEDLE 1 (Y)
NEEDLE 1 (X)
28
ADF
TACAN
VOR
ADF & TACAN
K1
K2
RADIO J-BOX
(TO ADF I SYS)
(TO OMNI II SYS)
R2 & S2 OF ALL SYNCHRO ROTORS & STATOR (C) (Z)
R1 OF ALL SYNCHRO ROTORS (H)
S3OF 'UNITS' SYNCHRO STATOR (X)
S1 OF 'UNITS' SYNCHRO STATOR (Y)
S3 OF 'TENS' SYNCHRO STATOR (X)
S1 OF 'TENS' SYNCHRO STATOR (Y)
S1 OF HUNDREDS SYNCHRO STATOR (X)
S3 OF HUNDREDS SYNCHRO STATOR (Y)
+28VDC SHUTTER INFORMATION
SHUTTER GROUND
28VDC
KEYWAY THIS SIDE
DETAIL OF MS35058-23 SWITCH 2048
STATOR (Y)
STATOR (X)
GROUND (Z) (C)
PHASE SHIFTER STATOR (GROUND)
PHASE SHIFTER ROTOR
'FROM' (+APP)
'TO' (+APP)
LEFT DEFLECTION (+APP)
RIGHT DEFLECTION (+APP)
PHASE SHIFTER STATOR
VERT FLAG +
VERT FLAG
DOWN DEF (+APP)
UP DEFLECT (+APP)
HORIZ FLAG
26
INDICATOR ID-387 ARN
RADIO JUNCTION BOX
1250 MFD 3V
(TO ILS SYS)
(TO APX-72 SYS)
ROTOR (X)
ROTOR (Y)
26V AC
STATOR GROUND
FROM (+APP)
LEFT DEF (+APP)
RIGHT DEF (+APP)
VERT FLAG -
S2 & R2 STATORS & ROTORS
R1-ALL SYNCHRO ROTORS
S3-UNITS SYNCHRO STATOR
S1-UNITS SYNCHRO STATOR
S3-'10S' SYNCHRO STATOR
S1-'10S' SYNCHRO STATOR
S1-'100S' SYNCHRO STATOR
S3-'100S' SYNCHRO STATOR
28VDC SHUTTER INFORMATION
SHUTTER GROUND
115V 400
155V 400
GRD AC & DC
IDENTITY TONE INPUT
(CHAN 120) 26VAC COARSE SERVO
AIR TO AIR RELAY
(CHAN 0) 26 VAC FINE SERVO
(CHAN 9) 26VAC FINE SERVO
(CHAN 00) 26VAC COARSE SERVO
27
RCVR-XMTR RT-384 ARN-52(V)
5A ARN 52 DC
5A ARN 52 AC
(TO AC BUS)
0.22MFD 600V
COLORED DOT
IDENTITY TONE
TRANSMITTER RELAY
26V FINE SERVO (CHAN 0)
26V FINE SERVO (CHAN 9)
26V COARSE SERVO (CHAN 00)
PANEL LIGHTS
29
CONTROL C-2010 ARN-52(V)
BLUE BEAD
DETAIL OF MHD6D26 5VC 2047 RELAYS (UNENERGIZED)
STATOR Y
STATOR X
26 VAC
30
INDICATOR ID-250/ARN
EL 1510-201-20 TM C1-90

1. ON 1960 MODEL AIRCRAFT, WIRES 2RN2904B20 AND 2RN2905B20 AND RN3603C20 AND RN3604C20 ARE REVERSED AT SWITCH S1.

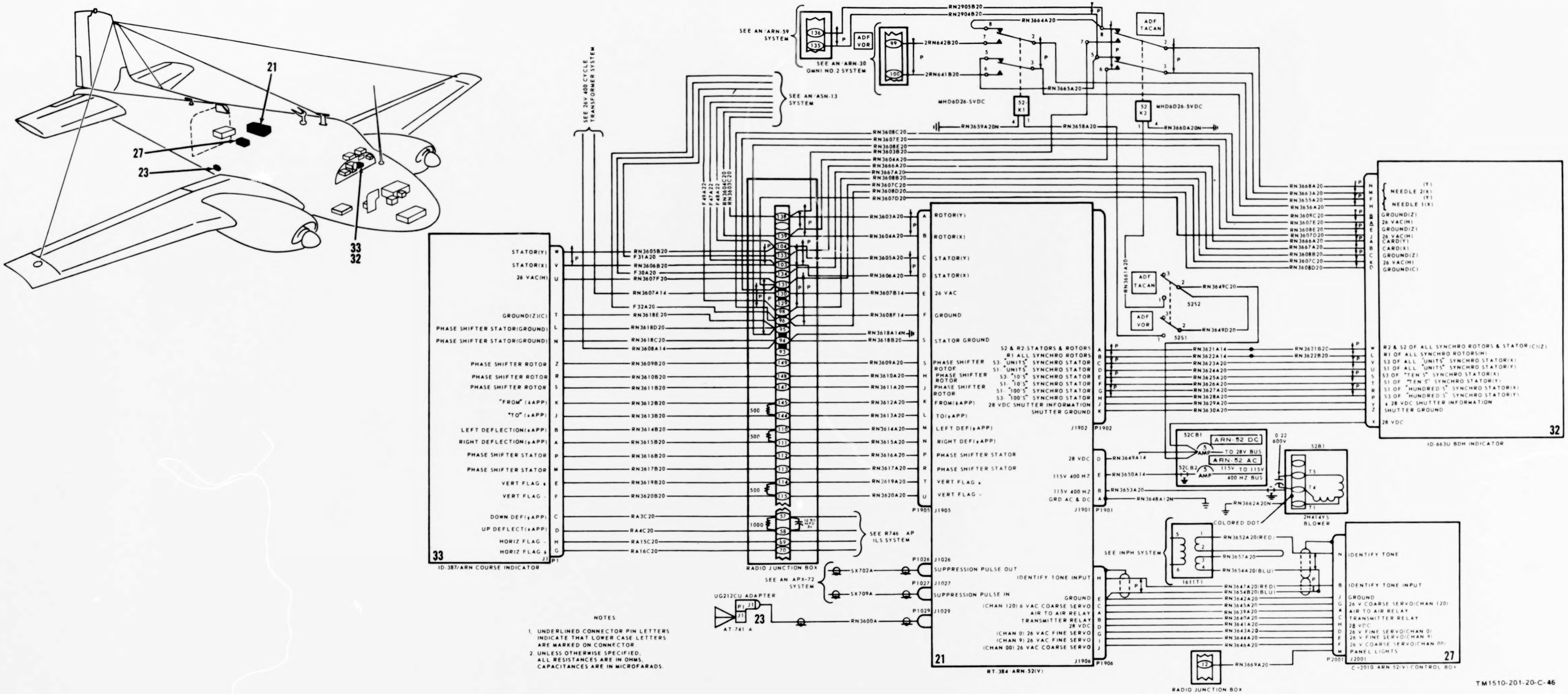
2. ALTERNATE CONFIGURATION USING ID-250 IN LIEU OF ID-663 C/U.

Figure 4-19. TACAN facility, configuration A, wiring diagram.

INDICATOR ID-663C/U
TERMINAL BOARD SEE FIG. 13-100A
26TB2
26TB1
RADIO J-BOX
INDICATOR ID-387 ARN
RCVR-XMTR RT-384/ARN-52(V)
CONTROL C-2010/ARN-52(V)
DETAIL OF MS35058-23 SWITCH
KEYWAY THIS SIDE
DETAIL OF MHD6D26-SVC 2047 RELAYS (UNENERGIZED)
BLUE BEAD
BLUEBEAD
COLORED DOT
INDICATOR ID-250()/ARN
(TO ASN 13 SYS)
(TO ADF II SYS)
(TO OMNI II SYS)
(TO ADF I SYS)
(TO OMNI I SYS)
(TO AC PWR SYS)
(TO ILS SYS)
(TO APX-72 SYS)
(TO AC BUS)
INPH SYSTEM CIRCUIT
ADF
TACAN
VOR
26
27
28
29
30

1. ON 1960 MODEL AIRCRAFT, WIRES 2RN2904B20 AND 2RH2905B20 AND RN3603C20 AND RN3604C20 ARE REVERSED AT SWITCH S1.
2. ALTERNATE CONFIGURATION USING ID-250 IN LIEU OF ID-663 C/U.

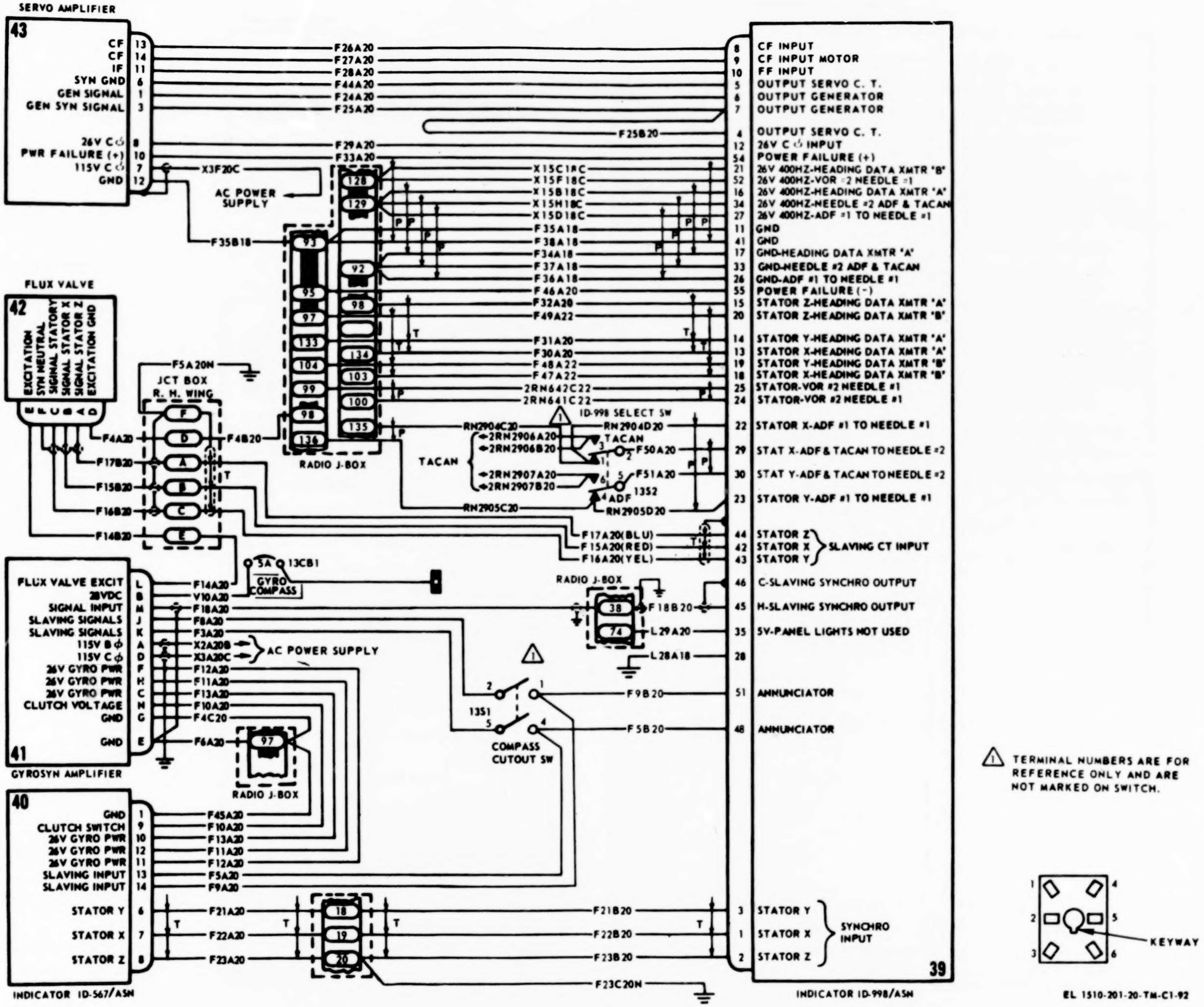
Figure 4-20. TACAN facility, configuration B, wiring diagram.


21
27
23
33
32
SEE AN/ARN-59 SYSTEM
SEE AN/ARN-30 OMNI NO.2 SYSTEM
ADF VOR
ADF TACAN
MHD6D26-5VDC
SEE AN/ASN-13 SYSTEM
SEE 26V 400 CYCLE TRANSFORMER SYSTEM
ID-387/ARN COURSE INDICATOR
RADIO JUNCTION BOX
RT-384 ARN-52(V)
ID-663U BDH INDICATOR
C-2010 ARN-52(V) CONTROL BOX
SEE R746 AP ILS SYSTEM
SEE AN/APX-72 SYSTEM
UG212CU ADAPTER
AT-741/A
SEE INPH SYSTEM
2H414Y5 BLOWER
ARN-52 DC
ARN-52 AC
TO 28V BUS
115V TO 115V 400 HZ BUS
COLORED DOT
TM1510-201-20-C-46

NOTES

1. UNDERLINED CONNECTOR PIN LETTERS INDICATE THAT LOWER CASE LETTERS ARE MARKED ON CONNECTOR
2. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN MICROFARADS.

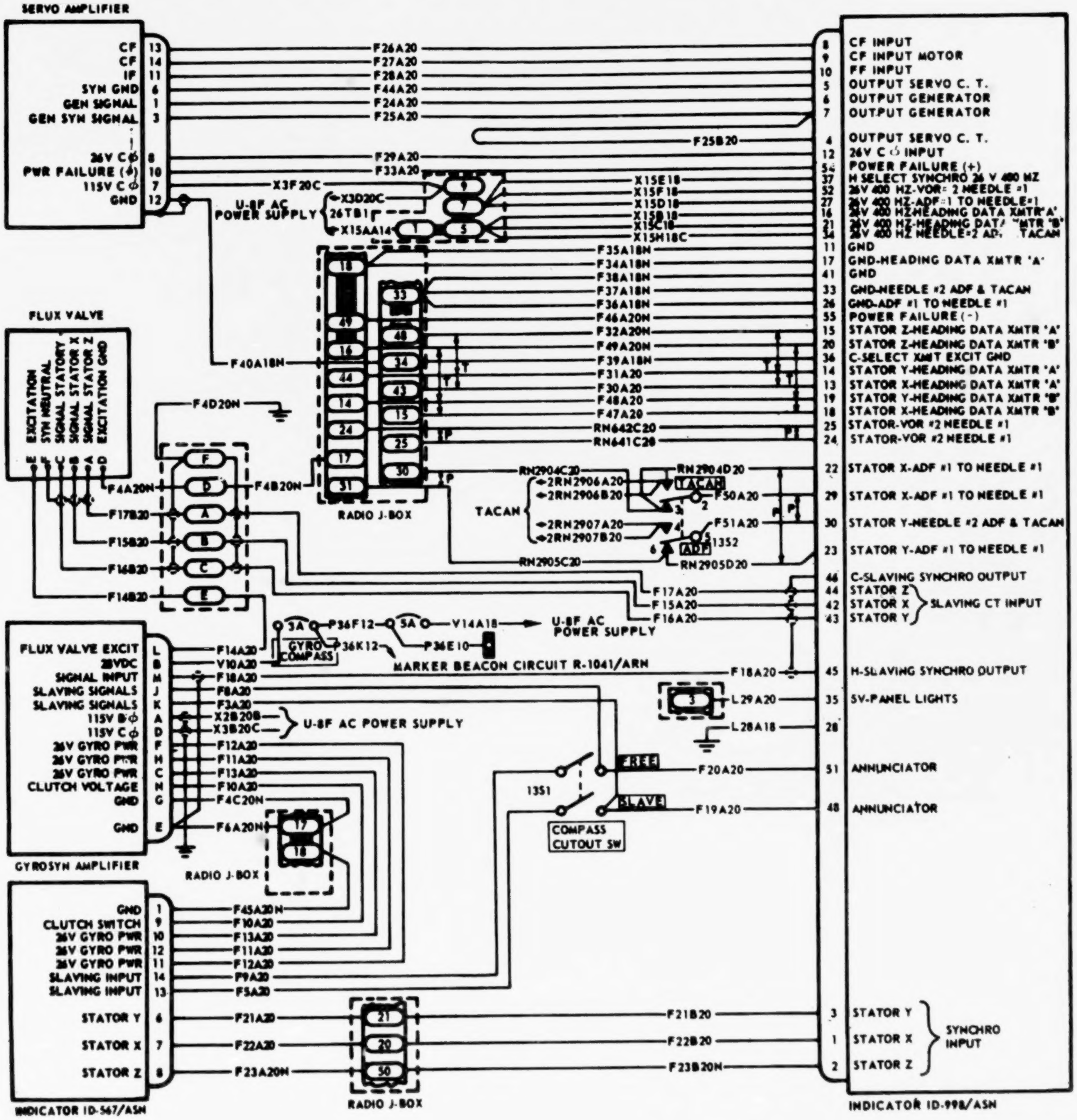
Figure 4-21. TACAN navigation facility, configuration C, wiring diagram.


SERVO AMPLIFIER
43
CF 13
CF 14
IF 11
SYN GND 6
GEN SIGNAL 1
GEN SYN SIGNAL 3
26V C ϕ 8
PWR FAILURE (+) 10
115V C ϕ 7
GND 12
F26A20
F27A20
F28A20
F44A20
F24A20
F25A20
F25B20
F29A20
F33A20
X3F20C
AC POWER SUPPLY
F35B18
X15C18C
X15F18C
X15B18C
X15H18C
X15D18C
F35A18
F38A18
F34A18
F37A18
F36A18
F46A20
F32A20
F49A22
F31A20
F30A20
F48A22
F47A22
2RN642C22
2RN641C22
128
129
93
92
95
98
97
133
134
104
103
99
100
135
136
RADIO J-BOX
P
T
8 CF INPUT
9 CF INPUT MOTOR
10 FF INPUT
5 OUTPUT SERVO C. T.
6 OUTPUT GENERATOR
7 OUTPUT GENERATOR
4 OUTPUT SERVO C. T.
12 26V C ϕ INPUT
54 POWER FAILURE (+)
21 26V 400HZ-HEADING DATA XMTR 'B'
52 26V 400HZ-VOR #2 NEEDLE #1
16 26V 400HZ-HEADING DATA XMTR 'A'
34 26V 400HZ-NEEDLE #2 ADF & TACAN
27 26V 400HZ-ADF #1 TO NEEDLE #1
11 GND
41 GND
17 GND-HEADING DATA XMTR 'A'
33 GND-NEEDLE #2 ADF & TACAN
26 GND-ADF #1 TO NEEDLE #1
55 POWER FAILURE (-)
15 STATOR Z-HEADING DATA XMTR 'A'
20 STATOR Z-HEADING DATA XMTR 'B'
14 STATOR Y-HEADING DATA XMTR 'A'
13 STATOR X-HEADING DATA XMTR 'A'
19 STATOR Y-HEADING DATA XMTR 'B'
18 STATOR X-HEADING DATA XMTR 'B'
25 STATOR-VOR #2 NEEDLE #1
24 STATOR-VOR #2 NEEDLE #1
22 STATOR X-ADF #1 TO NEEDLE #1
29 STAT X-ADF & TACAN TO NEEDLE #2
30 STAT Y-ADF & TACAN TO NEEDLE #2
23 STATOR Y-ADF #1 TO NEEDLE #1
44 STATOR Z
42 STATOR X
43 STATOR Y
SLAVING CT INPUT
46 C-SLAVING SYNCHRO OUTPUT
45 H-SLAVING SYNCHRO OUTPUT
35 5V-PANEL LIGHTS NOT USED
28
51 ANNUNCIATOR
48 ANNUNCIATOR
3 STATOR Y
1 STATOR X
2 STATOR Z
SYNCHRO INPUT
39
INDICATOR ID-998/ASN
FLUX VALVE
42
EXCITATION
SYN NEUTRAL
SIGNAL STATOR Y
SIGNAL STATOR X
SIGNAL STATOR Z
EXCITATION GND
F5A20N
JCT BOX R. H. WING
F4A20
F17B20
F15B20
F16B20
F14B20
F4B20
F
D
A
B
C
E
ID-998 SELECT SW
RN2904C20
RN2904D20
2RN2906A20
2RN2906B20
TACAN
2RN2907A20
2RN2907B20
RN2905C20
RN2905D20
F50A20
F51A20
ADF
1352
F17A20(BLU)
F15A20(RED)
F16A20(YEL)
5A
13CB1
GYRO COMPASS
RADIO J-BOX
38
74
F18B20
L29A20
L28A18
FLUX VALVE EXCIT L
28VDC B
SIGNAL INPUT M
SLAVING SIGNALS J
SLAVING SIGNALS K
115V B ϕ A
115V C ϕ D
26V GYRO PWR F
26V GYRO PWR H
26V GYRO PWR C
CLUTCH VOLTAGE N
GND G
GND E
41
GYROSYN AMPLIFIER
F14A20
V10A20
F18A20
F8A20
F3A20
X2A20B
X3A20C
AC POWER SUPPLY
F12A20
F11A20
F13A20
F10A20
F4C20
F6A20
97
RADIO J-BOX
1351
COMPASS CUTOUT SW
F9B20
F5B20
40
GND 1
CLUTCH SWITCH 9
26V GYRO PWR 10
26V GYRO PWR 12
26V GYRO PWR 11
SLAVING INPUT 13
SLAVING INPUT 14
STATOR Y 6
STATOR X 7
STATOR Z 8
F45A20
F10A20
F13A20
F11A20
F12A20
F5A20
F9A20
F21A20
F22A20
F23A20
18
19
20
F21B20
F22B20
F23B20
F23C20N
INDICATOR ID-567/ASN
KEYWAY

⚠ TERMINAL NUMBERS ARE FOR REFERENCE ONLY AND ARE NOT MARKED ON SWITCH.

EL 1510-201-20-TM-C1-92

Figure 4-22. Gyromagnetic compass facility, configuration A, wiring diagram.


SERVO AMPLIFIER
CF 13
CF 14
IF 11
SYN GND 6
GEN SIGNAL 1
GEN SYN SIGNAL 3
26V C ϕ 8
PWR FAILURE (ϕ) 10
115V C ϕ 7
GND 12
F26A20
F27A20
F28A20
F44A20
F24A20
F25A20
F25B20
F29A20
F33A20
X3F20C
U-8F AC POWER SUPPLY
X3D20C
26TB1
X15AA14
X15E18
X15F18
X15D18
X15B18
X15C18
X15H18C
F35A18N
F34A18N
F38A18N
F37A18N
F36A18N
F46A20N
F32A20N
F49A20N
F39A18N
F31A20
F30A20
F48A20
F47A20
RN642C20
RN641C20
F40A18N
RADIO J-BOX
FLUX VALVE
EXCITATION
SYN NEUTRAL
SIGNAL STATOR Y
SIGNAL STATOR X
SIGNAL STATOR Z
EXCITATION GND
E F C B A D
F4D20N
F4A20N
F4B20N
F17B20
F15B20
F16B20
F14B20
RN2904C20
RN2904D20
2RN2906A20
2RN2906B20
TACAN
F50A20
2RN2907A20
2RN2907B20
F51A20
ADF
1352
RN2905C20
RN2905D20
F17A20
F15A20
F16A20
3A
P36F12
5A
V14A18
U-8F AC POWER SUPPLY
GYRO COMPASS
P36K12
P36E10
MARKER BEACON CIRCUIT R-1041/ARN
FLUX VALVE EXCIT L
28VDC B
SIGNAL INPUT M
SLAVING SIGNALS J
SLAVING SIGNALS K
115V B ϕ A
115V C ϕ D
26V GYRO PWR F
26V GYRO PWR H
26V GYRO PWR C
CLUTCH VOLTAGE N
GND G
GND E
F14A20
V10A20
F18A20
F8A20
F3A20
X2B20B
X3B20C
U-8F AC POWER SUPPLY
F12A20
F11A20
F13A20
F10A20
F4C20N
F6A20N
GYROSYN AMPLIFIER
RADIO J-BOX
L29A20
L28A18
FREE
F20A20
1351
SLAVE
F19A20
COMPASS CUTOUT SW
GND 1
CLUTCH SWITCH 9
26V GYRO PWR 10
26V GYRO PWR 12
26V GYRO PWR 11
SLAVING INPUT 14
SLAVING INPUT 13
STATOR Y 6
STATOR X 7
STATOR Z 8
F45A20N
F10A20
F13A20
F11A20
F12A20
F9A20
F5A20
F21A20
F22A20
F23A20N
RADIO J-BOX
F21B20
F22B20
F23B20N
INDICATOR ID-567/ASN
8 CF INPUT
9 CF INPUT MOTOR
10 FF INPUT
5 OUTPUT SERVO C. T.
6 OUTPUT GENERATOR
7 OUTPUT GENERATOR
4 OUTPUT SERVO C. T.
12 26V C ϕ INPUT
54 POWER FAILURE (+)
37 H SELECT SYNCHRO 26 V 400 HZ
52 26V 400 HZ-VOR #2 NEEDLE #1
27 26V 400 HZ-ADF #1 TO NEEDLE #1
16 26V 400 HZ-HEADING DATA XMTR 'A'
21 26V 400 HZ-HEADING DATA XMTR 'B'
34 26V 400 HZ NEEDLE #2 ADF & TACAN
11 GND
17 GND-HEADING DATA XMTR 'A'
41 GND
33 GND-NEEDLE #2 ADF & TACAN
26 GND-ADF #1 TO NEEDLE #1
55 POWER FAILURE (-)
15 STATOR Z-HEADING DATA XMTR 'A'
20 STATOR Z-HEADING DATA XMTR 'B'
36 C-SELECT XMT EXCIT GND
14 STATOR Y-HEADING DATA XMTR 'A'
13 STATOR X-HEADING DATA XMTR 'A'
19 STATOR Y-HEADING DATA XMTR 'B'
18 STATOR X-HEADING DATA XMTR 'B'
25 STATOR-VOR #2 NEEDLE #1
24 STATOR-VOR #2 NEEDLE #1
22 STATOR X-ADF #1 TO NEEDLE #1
29 STATOR X-ADF #1 TO NEEDLE #1
30 STATOR Y-NEEDLE #2 ADF & TACAN
23 STATOR Y-ADF #1 TO NEEDLE #1
46 C-SLAVING SYNCHRO OUTPUT
44 STATOR Z
42 STATOR X
43 STATOR Y
SLAVING CT INPUT
45 H-SLAVING SYNCHRO OUTPUT
35 5V-PANEL LIGHTS
28
51 ANNUNCIATOR
48 ANNUNCIATOR
3 STATOR Y
1 STATOR X
2 STATOR Z
SYNCHRO INPUT
INDICATOR ID-998/ASN

EL 1510-201-20-TM-C1-93

Figure 4-23. Gyromagnetic compass facility, configuration B, wiring diagram.

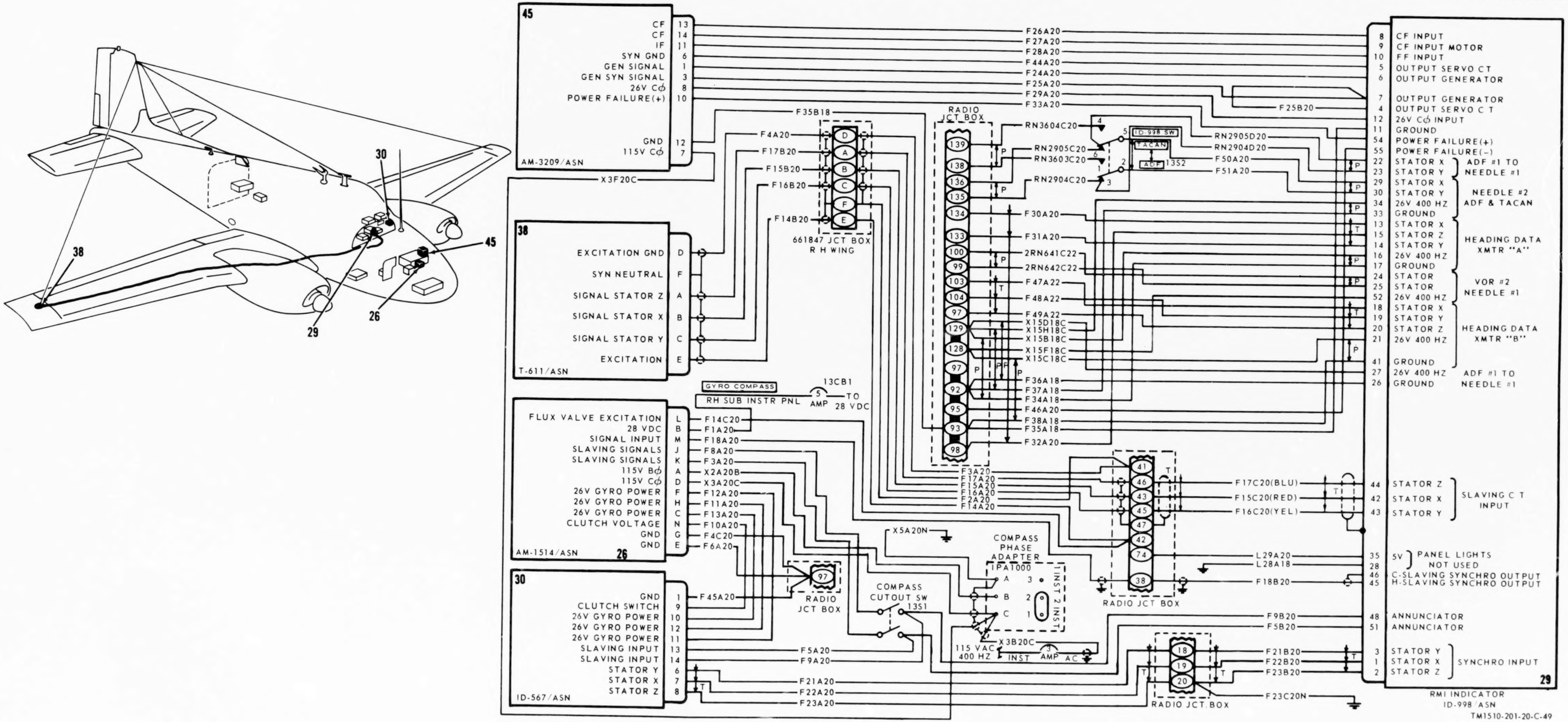

30
38
45
29
26
45
CF 13
CF 14
IF 11
SYN GND 6
GEN SIGNAL 1
GEN SYN SIGNAL 3
26V Cϕ 8
POWER FAILURE(+) 10
GND 12
115V Cϕ 7
AM-3209/ASN
X3F20C
38
EXCITATION GND D
SYN NEUTRAL F
SIGNAL STATOR Z A
SIGNAL STATOR X B
SIGNAL STATOR Y C
EXCITATION E
T-611/ASN
F35B18
F4A20
F17B20
F15B20
F16B20
F14B20
661847 JCT BOX
R H WING
F26A20
F27A20
F28A20
F44A20
F24A20
F25A20
F29A20
F33A20
F25B20
RADIO JCT BOX
139
138
136
135
134
133
100
99
103
104
97
129
128
97
92
95
93
98
RN3604C20
RN2905C20
RN3603C20
RN2904C20
ID-998 SW
TACAN
ADF
13S2
RN2905D20
RN2904D20
F50A20
F51A20
F30A20
F31A20
2RN641C22
2RN642C22
F47A22
F48A22
F49A22
X15D18C
X15H18C
X15B18C
X15F18C
X15C18C
F36A18
F37A18
F34A18
F46A20
F38A18
F35A18
F32A20
P
T
8 CF INPUT
9 CF INPUT MOTOR
10 FF INPUT
5 OUTPUT SERVO CT
6 OUTPUT GENERATOR
7 OUTPUT GENERATOR
4 OUTPUT SERVO C T
12 26V Cϕ INPUT
11 GROUND
54 POWER FAILURE(+)
55 POWER FAILURE(-)
22 STATOR X
23 STATOR Y
ADF #1 TO NEEDLE #1
29 STATOR X
30 STATOR Y
34 26V 400 HZ
33 GROUND
NEEDLE #2 ADF & TACAN
13 STATOR X
15 STATOR Z
14 STATOR Y
16 26V 400 HZ
17 GROUND
HEADING DATA XMTR "A"
24 STATOR
25 STATOR
52 26V 400 HZ
VOR #2 NEEDLE #1
18 STATOR X
19 STATOR Y
20 STATOR Z
21 26V 400 HZ
41 GROUND
HEADING DATA XMTR "B"
27 26V 400 HZ
26 GROUND
ADF #1 TO NEEDLE #1
GYRO COMPASS
RH SUB INSTR PNL
13CB1
5 AMP
TO 28 VDC
FLUX VALVE EXCITATION L
28 VDC B
SIGNAL INPUT M
SLAVING SIGNALS J
SLAVING SIGNALS K
115V Bϕ A
115V Cϕ D
26V GYRO POWER F
26V GYRO POWER H
26V GYRO POWER C
CLUTCH VOLTAGE N
GND G
GND E
AM-1514/ASN
26
F14C20
F1A20
F18A20
F8A20
F3A20
X2A20B
X3A20C
F12A20
F11A20
F13A20
F10A20
F4C20
F6A20
F3A20
F17A20
F15A20
F16A20
F2A20
F14A20
41
46
43
45
47
42
74
38
RADIO JCT BOX
F17C20(BLU)
F15C20(RED)
F16C20(YEL)
44 STATOR Z
42 STATOR X
43 STATOR Y
SLAVING C T INPUT
X5A20N
COMPASS PHASE ADAPTER
1PA1000
A 3
B 2
C 1
INST 2 INST 1
L29A20
L28A18
35 5V
28
PANEL LIGHTS NOT USED
46 C-SLAVING SYNCHRO OUTPUT
45 H-SLAVING SYNCHRO OUTPUT
F18B20
30
GND 1
CLUTCH SWITCH 9
26V GYRO POWER 10
26V GYRO POWER 12
26V GYRO POWER 11
SLAVING INPUT 13
SLAVING INPUT 14
STATOR Y 6
STATOR X 7
STATOR Z 8
ID-567/ASN
F45A20
97
RADIO JCT BOX
COMPASS CUTOUT SW 13S1
F5A20
F9A20
115 VAC 400 HZ
X3B20C
3 AMP
INST
AC
F9B20
F5B20
48 ANNUNCIATOR
51 ANNUNCIATOR
F21A20
F22A20
F23A20
18
19
20
RADIO JCT BOX
F21B20
F22B20
F23B20
F23C20N
3 STATOR Y
1 STATOR X
2 STATOR Z
SYNCHRO INPUT
29
RMI INDICATOR
ID-998/ASN
TM1510-201-20-C-49

Figure 4-24. Gyromagnetic compass facility modification, configuration C, wiring diagram.

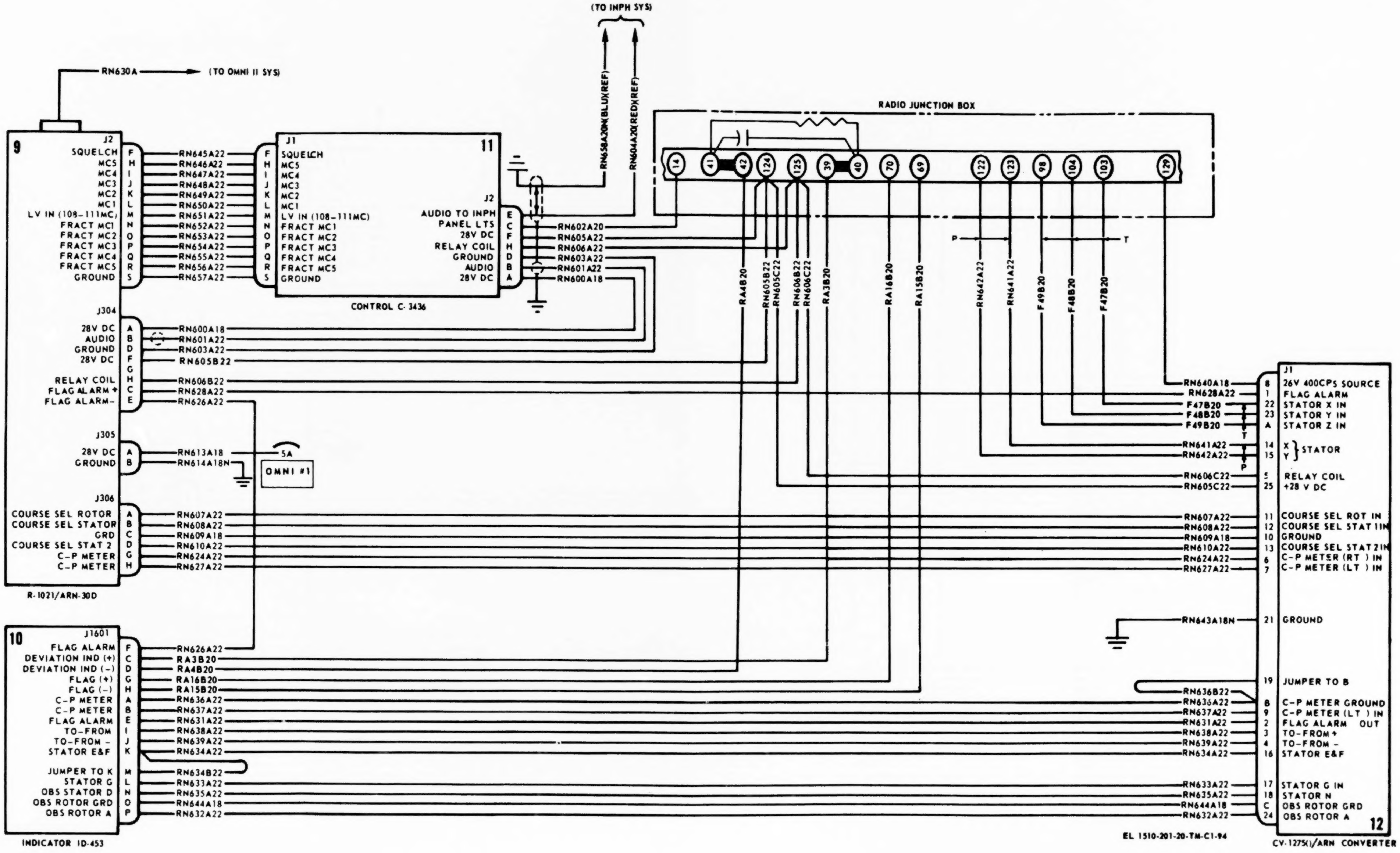

(TO INPH SYS)
RN658A20N(BLU)(REF)
RN604A20(RED)(REF)
RN630A
(TO OMNI II SYS)
RADIO JUNCTION BOX
14
41
42
124
125
39
40
70
69
122
123
98
104
103
129
9
J2
SQUELCH F
MC5 H
MC4 I
MC3 J
MC2 K
MC1 L
LV IN (108-111MC) M
FRACT MC1 N
FRACT MC2 O
FRACT MC3 P
FRACT MC4 Q
FRACT MC5 R
GROUND S
RN645A22
RN646A22
RN647A22
RN648A22
RN649A22
RN650A22
RN651A22
RN652A22
RN653A22
RN654A22
RN655A22
RN656A22
RN657A22
11
J1
SQUELCH
MC5
MC4
MC3
MC2
MC1
LV IN (108-111MC)
FRACT MC1
FRACT MC2
FRACT MC3
FRACT MC4
FRACT MC5
GROUND
J2
AUDIO TO INPH E
PANEL LTS C
28V DC F
RELAY COIL H
GROUND D
AUDIO B
28V DC A
CONTROL C-3436
RN602A20
RN605A22
RN606A22
RN603A22
RN601A22
RN600A18
RA4B20
RN605B22
RN605C22
RN606B22
RN606C22
RA3B20
RA16B20
RA15B20
RN642A22
RN641A22
F49B20
F48B20
F47B20
P
T
J304
28V DC A
AUDIO B
GROUND D
28V DC F
G
RELAY COIL H
FLAG ALARM + C
FLAG ALARM - E
RN600A18
RN601A22
RN603A22
RN605B22
RN606B22
RN628A22
RN626A22
J305
28V DC A
GROUND B
RN613A18
RN614A18N
5A
OMNI #1
J306
COURSE SEL ROTOR A
COURSE SEL STATOR B
GRD C
COURSE SEL STAT 2 D
C-P METER G
C-P METER H
RN607A22
RN608A22
RN609A18
RN610A22
RN624A22
RN627A22
R-1021/ARN-30D
10
J1601
FLAG ALARM F
DEVIATION IND (+) C
DEVIATION IND (-) D
FLAG (+) G
FLAG (-) H
C-P METER A
C-P METER B
FLAG ALARM E
TO-FROM I
TO-FROM - J
STATOR E&F K
JUMPER TO K M
STATOR G L
OBS STATOR D N
OBS ROTOR GRD O
OBS ROTOR A P
RN626A22
RA3B20
RA4B20
RA16B20
RA15B20
RN636A22
RN637A22
RN631A22
RN638A22
RN639A22
RN634A22
RN634B22
RN633A22
RN635A22
RN644A18
RN632A22
INDICATOR ID-453
J1
RN640A18 8 26V 400CPS SOURCE
RN628A22 1 FLAG ALARM
F47B20 22 STATOR X IN
F48B20 23 STATOR Y IN
F49B20 A STATOR Z IN
RN641A22 14 X
RN642A22 15 Y
STATOR
RN606C22 5 RELAY COIL
RN605C22 25 +28 V DC
RN607A22 11 COURSE SEL ROT IN
RN608A22 12 COURSE SEL STAT 1 IN
RN609A18 10 GROUND
RN610A22 13 COURSE SEL STAT 2 IN
RN624A22 6 C-P METER (RT) IN
RN627A22 7 C-P METER (LT) IN
RN643A18N 21 GROUND
19 JUMPER TO B
RN636B22
RN636A22 B C-P METER GROUND
RN637A22 9 C-P METER (LT) IN
RN631A22 2 FLAG ALARM OUT
RN638A22 3 TO-FROM +
RN639A22 4 TO-FROM -
RN634A22 16 STATOR E&F
RN633A22 17 STATOR G IN
RN635A22 18 STATOR N
RN644A18 C OBS ROTOR GRD
RN632A22 24 OBS ROTOR A
12
EL 1510-201-20-TM-C1-94
CV-1275()/ARN CONVERTER

Figure 4-25. VHF navigation facility, omni No. 1, configuration A, wiring diagram.

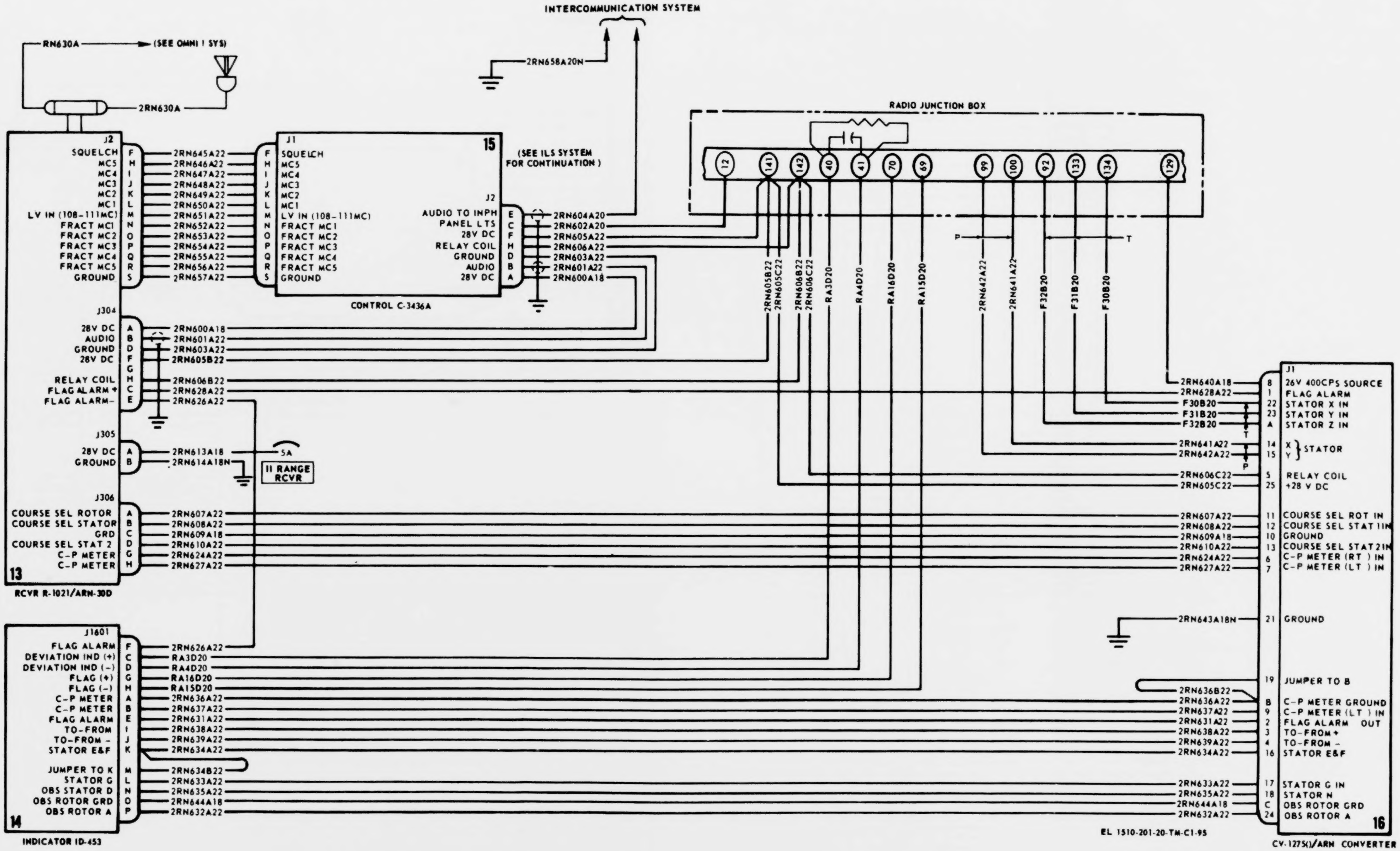
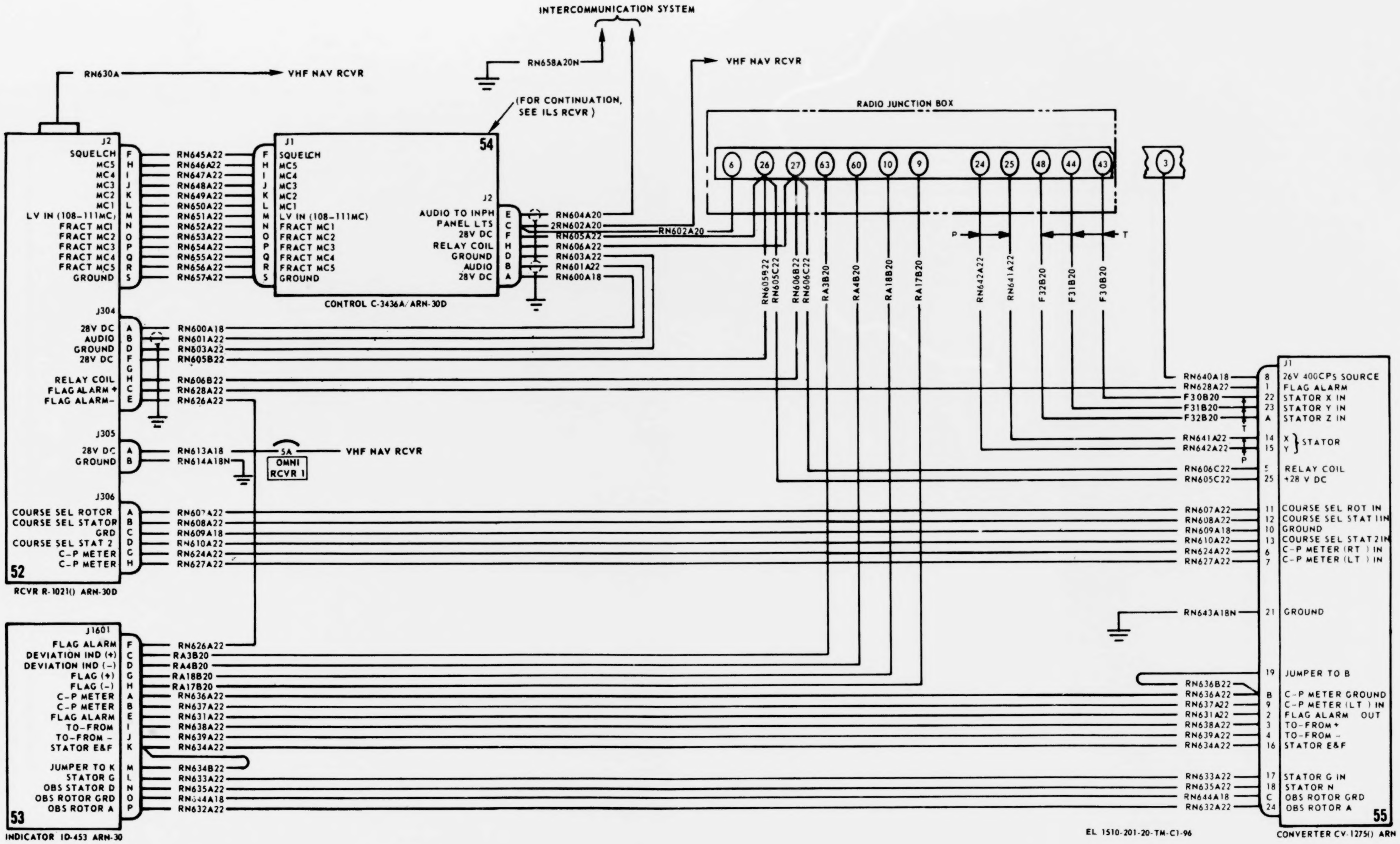

INTERCOMMUNICATION SYSTEM
RN630A
(SEE OMNI 1 SYS)
2RN658A20N
2RN630A
RADIO JUNCTION BOX
12
141
142
40
41
70
69
99
100
92
133
134
129
J2
SQUELCH
MC5
MC4
MC3
MC2
MC1
LV IN (108-111MC)
FRACT MC1
FRACT MC2
FRACT MC3
FRACT MC4
FRACT MC5
GROUND
2RN645A22
2RN646A22
2RN647A22
2RN648A22
2RN649A22
2RN650A22
2RN651A22
2RN652A22
2RN653A22
2RN654A22
2RN655A22
2RN656A22
2RN657A22
J1
15
(SEE ILS SYSTEM FOR CONTINUATION)
AUDIO TO INPH
PANEL LTS
28V DC
RELAY COIL
GROUND
AUDIO
28V DC
2RN604A20
2RN602A20
2RN605A22
2RN606A22
2RN603A22
2RN601A22
2RN600A18
CONTROL C-3436A
2RN605B22
2RN605C22
2RN606B22
2RN606C22
RA3D20
RA4D20
RA16D20
RA15D20
2RN642A22
2RN641A22
F32B20
F31B20
F30B20
P
T
J304
28V DC
AUDIO
GROUND
28V DC
RELAY COIL
FLAG ALARM +
FLAG ALARM-
2RN600A18
2RN601A22
2RN603A22
2RN605B22
2RN606B22
2RN628A22
2RN626A22
J305
28V DC
GROUND
2RN613A18
2RN614A18N
5A
11 RANGE RCVR
J306
COURSE SEL ROTOR
COURSE SEL STATOR
GRD
COURSE SEL STAT 2
C-P METER
C-P METER
2RN607A22
2RN608A22
2RN609A18
2RN610A22
2RN624A22
2RN627A22
13
RCVR R-1021/ARN-30D
J1601
FLAG ALARM
DEVIATION IND (+)
DEVIATION IND (-)
FLAG (+)
FLAG (-)
C-P METER
C-P METER
FLAG ALARM
TO-FROM
TO-FROM -
STATOR E&F
JUMPER TO K
STATOR G
OBS STATOR D
OBS ROTOR GRD
OBS ROTOR A
2RN626A22
RA3D20
RA4D20
RA16D20
RA15D20
2RN636A22
2RN637A22
2RN631A22
2RN638A22
2RN639A22
2RN634A22
2RN634B22
2RN633A22
2RN635A22
2RN644A18
2RN632A22
14
INDICATOR ID-453
J1
2RN640A18
2RN628A22
F30B20
F31B20
F32B20
2RN641A22
2RN642A22
2RN606C22
2RN605C22
26V 400CPS SOURCE
FLAG ALARM
STATOR X IN
STATOR Y IN
STATOR Z IN
X
Y
STATOR
RELAY COIL
+28 V DC
COURSE SEL ROT IN
COURSE SEL STAT 1IN
GROUND
COURSE SEL STAT2IN
C-P METER (RT) IN
C-P METER (LT) IN
2RN643A18N
GROUND
JUMPER TO B
2RN636B22
C-P METER GROUND
C-P METER (LT) IN
FLAG ALARM OUT
TO-FROM +
TO-FROM -
STATOR E&F
STATOR G IN
STATOR N
OBS ROTOR GRD
OBS ROTOR A
16
EL 1510-201-20-TM-C1-95
CV-1275()/ARN CONVERTER

Figure 4-25.1 VHF navigation facility, omni No. 2, configuration A, wiring diagram.


INTERCOMMUNICATION SYSTEM
RN658A20N
RN630A
VHF NAV RCVR
(FOR CONTINUATION, SEE ILS RCVR)
RADIO JUNCTION BOX
6
26
27
63
60
10
9
24
25
48
44
43
3
J2
SQUELCH
MC5
MC4
MC3
MC2
MC1
LV IN (108-111MC)
FRACT MC1
FRACT MC2
FRACT MC3
FRACT MC4
FRACT MC5
GROUND
RN645A22
RN646A22
RN647A22
RN648A22
RN649A22
RN650A22
RN651A22
RN652A22
RN653A22
RN654A22
RN655A22
RN656A22
RN657A22
J1
54
AUDIO TO INPH
PANEL LTS
28V DC
RELAY COIL
GROUND
AUDIO
28V DC
RN604A20
2RN602A20
RN605A22
RN606A22
RN603A22
RN601A22
RN600A18
RN602A20
CONTROL C-3436A/ARN-30D
RN605B22
RN605C22
RN606B22
RN606C22
RA3B20
RA4B20
RA18B20
RA17B20
RN642A22
RN641A22
F32B20
F31B20
F30B20
P
T
J304
28V DC
AUDIO
GROUND
28V DC
RELAY COIL
FLAG ALARM +
FLAG ALARM –
RN600A18
RN601A22
RN603A22
RN605B22
RN606B22
RN628A22
RN626A22
J305
28V DC
GROUND
RN613A18
RN614A18N
5A
OMNI RCVR 1
J306
COURSE SEL ROTOR
COURSE SEL STATOR
GRD
COURSE SEL STAT 2
C-P METER
C-P METER
RN607A22
RN608A22
RN609A18
RN610A22
RN624A22
RN627A22
52
RCVR R-1021() ARN-30D
J1601
FLAG ALARM
DEVIATION IND (+)
DEVIATION IND (–)
FLAG (+)
FLAG (–)
C-P METER
C-P METER
FLAG ALARM
TO-FROM +
TO-FROM –
STATOR E&F
JUMPER TO K
STATOR G
OBS STATOR D
OBS ROTOR GRD
OBS ROTOR A
RN626A22
RA3B20
RA4B20
RA18B20
RA17B20
RN636A22
RN637A22
RN631A22
RN638A22
RN639A22
RN634A22
RN634B22
RN633A22
RN635A22
RN644A18
RN632A22
53
INDICATOR ID-453 ARN-30
J1
26V 400CPS SOURCE
FLAG ALARM
STATOR X IN
STATOR Y IN
STATOR Z IN
X
Y
STATOR
RELAY COIL
+28 V DC
COURSE SEL ROT IN
COURSE SEL STAT 1 IN
GROUND
COURSE SEL STAT 2 IN
C-P METER (RT) IN
C-P METER (LT) IN
GROUND
JUMPER TO B
C-P METER GROUND
C-P METER (LT) IN
FLAG ALARM OUT
TO-FROM +
TO-FROM –
STATOR E&F
STATOR G IN
STATOR N
OBS ROTOR GRD
OBS ROTOR A
RN640A18
RN628A22
F30B20
F31B20
F32B20
RN641A22
RN642A22
RN606C22
RN605C22
RN643A18N
RN636B22
55
CONVERTER CV-1275() ARN

EL 1510-201-20-TM-C1-96

Figure 4-26. VHF navigation facility, omni No. 1, configuration B, wiring diagram.

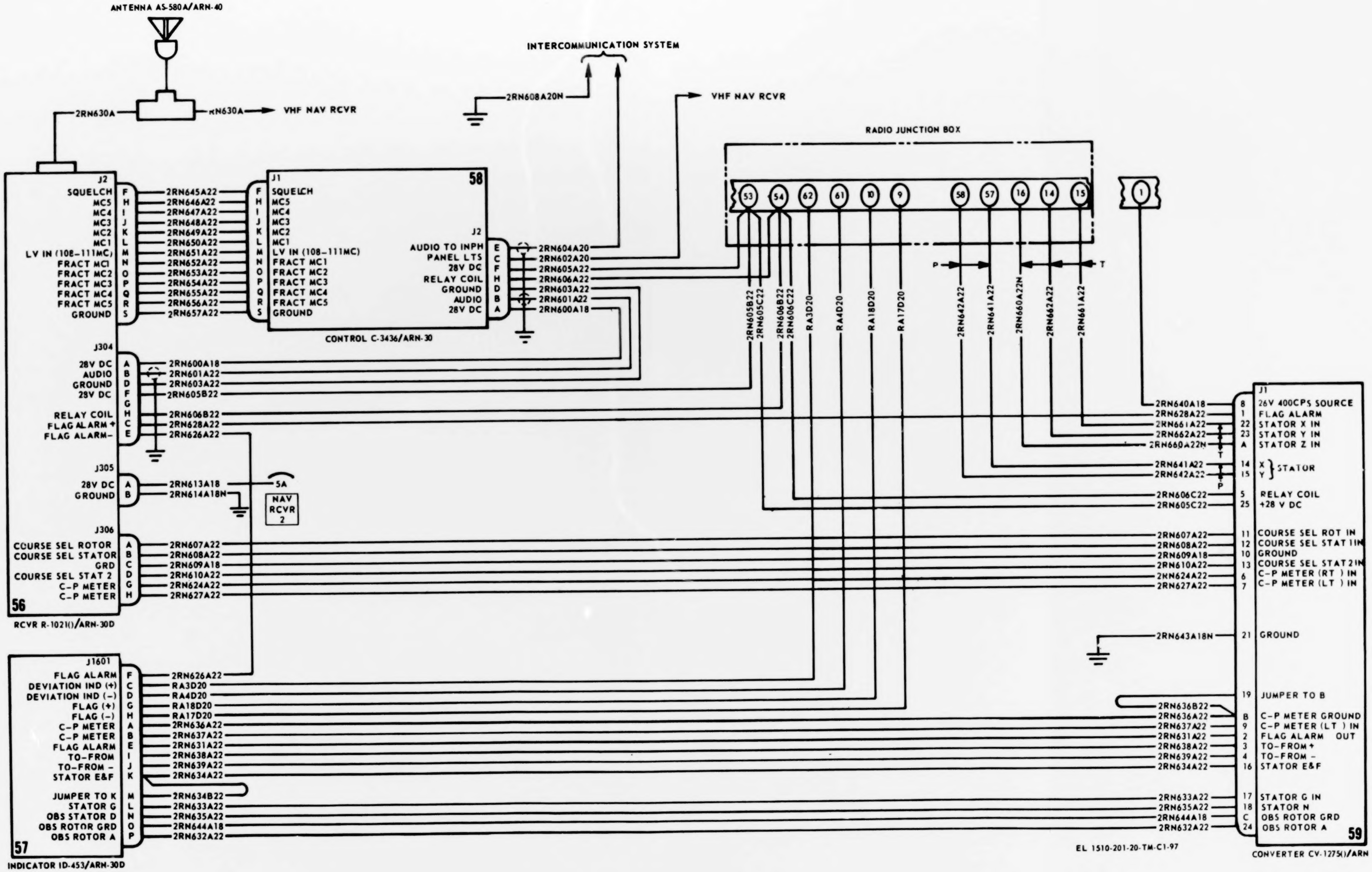

ANTENNA AS-580A/ARN-40
2RN630A
RN630A
VHF NAV RCVR
INTERCOMMUNICATION SYSTEM
2RN608A20N
VHF NAV RCVR
RADIO JUNCTION BOX
53
54
62
61
10
9
58
57
16
14
15
1
P
T
J2
SQUELCH
MC5
MC4
MC3
MC2
MC1
LV IN (108–111MC)
FRACT MC1
FRACT MC2
FRACT MC3
FRACT MC4
FRACT MC5
GROUND
2RN645A22
2RN646A22
2RN647A22
2RN648A22
2RN649A22
2RN650A22
2RN651A22
2RN652A22
2RN653A22
2RN654A22
2RN655A22
2RN656A22
2RN657A22
J1
58
AUDIO TO INPH
PANEL LTS
28V DC
RELAY COIL
GROUND
AUDIO
28V DC
2RN604A20
2RN602A20
2RN605A22
2RN606A22
2RN603A22
2RN601A22
2RN600A18
CONTROL C-3436/ARN-30
2RN605B22
2RN605C22
2RN606B22
2RN606C22
RA3D20
RA4D20
RA18D20
RA17D20
2RN642A22
2RN641A22
2RN660A22N
2RN662A22
2RN661A22
J304
28V DC
AUDIO
GROUND
28V DC
RELAY COIL
FLAG ALARM +
FLAG ALARM –
2RN600A18
2RN601A22
2RN603A22
2RN605B22
2RN606B22
2RN628A22
2RN626A22
J305
28V DC
GROUND
2RN613A18
2RN614A18N
5A
NAV RCVR 2
J306
COURSE SEL ROTOR
COURSE SEL STATOR
GRD
COURSE SEL STAT 2
C–P METER
C–P METER
2RN607A22
2RN608A22
2RN609A18
2RN610A22
2RN624A22
2RN627A22
56
RCVR R-1021()/ARN-30D
J1601
FLAG ALARM
DEVIATION IND (+)
DEVIATION IND (–)
FLAG (+)
FLAG (–)
C–P METER
C–P METER
FLAG ALARM
TO–FROM
TO–FROM –
STATOR E&F
JUMPER TO K
STATOR G
OBS STATOR D
OBS ROTOR GRD
OBS ROTOR A
2RN626A22
RA3D20
RA4D20
RA18D20
RA17D20
2RN636A22
2RN637A22
2RN631A22
2RN638A22
2RN639A22
2RN634A22
2RN634B22
2RN633A22
2RN635A22
2RN644A18
2RN632A22
57
INDICATOR ID-453/ARN-30D
J1
2RN640A18
2RN628A22
2RN661A22
2RN662A22
2RN660A22N
2RN641A22
2RN642A22
2RN606C22
2RN605C22
26V 400CPS SOURCE
FLAG ALARM
STATOR X IN
STATOR Y IN
STATOR Z IN
X
Y
STATOR
RELAY COIL
+28 V DC
COURSE SEL ROT IN
COURSE SEL STAT 1 IN
GROUND
COURSE SEL STAT 2 IN
C–P METER (RT) IN
C–P METER (LT) IN
2RN643A18N
GROUND
JUMPER TO B
2RN636B22
C–P METER GROUND
C–P METER (LT) IN
FLAG ALARM OUT
TO–FROM +
TO–FROM –
STATOR E&F
STATOR G IN
STATOR N
OBS ROTOR GRD
OBS ROTOR A
59
CONVERTER CV-1275()/ARN
EL 1510-201-20-TM-C1-97

Figure 4–26.1 VHF navigation facility, omni No. 2, configuration B, wiring diagram.

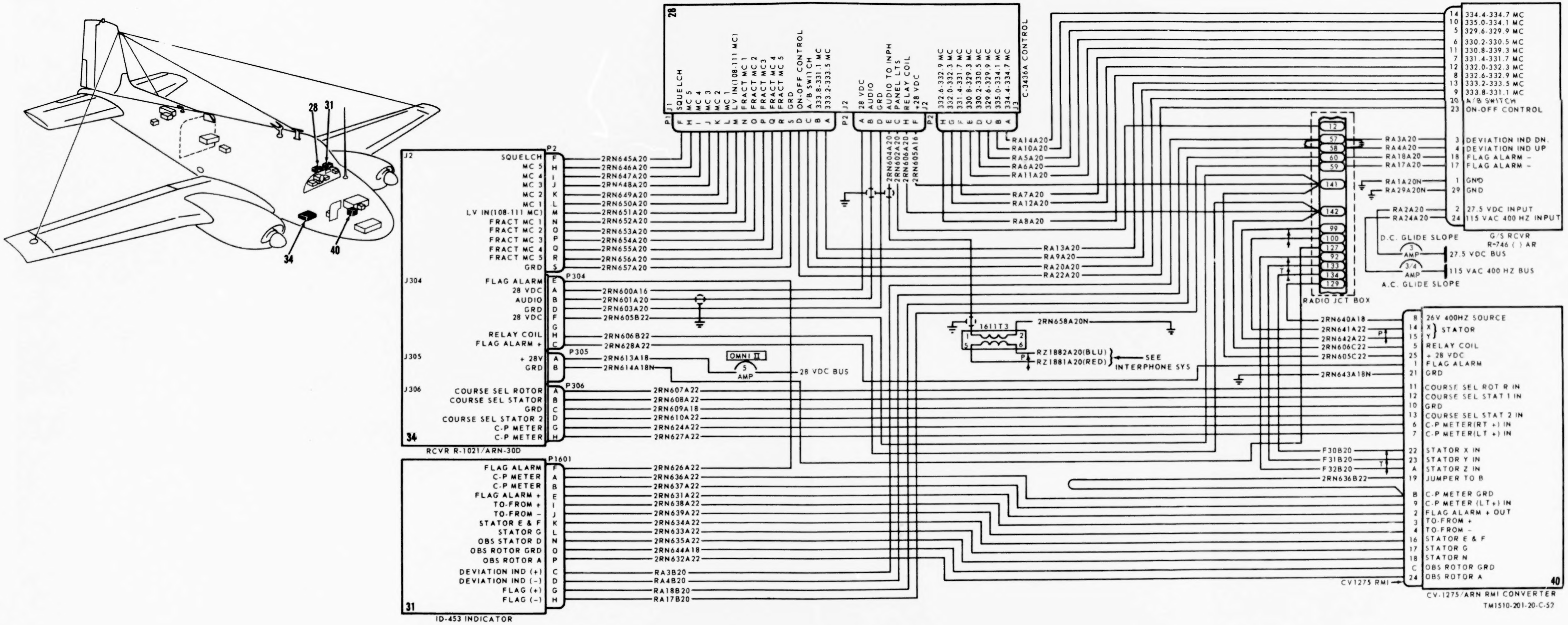
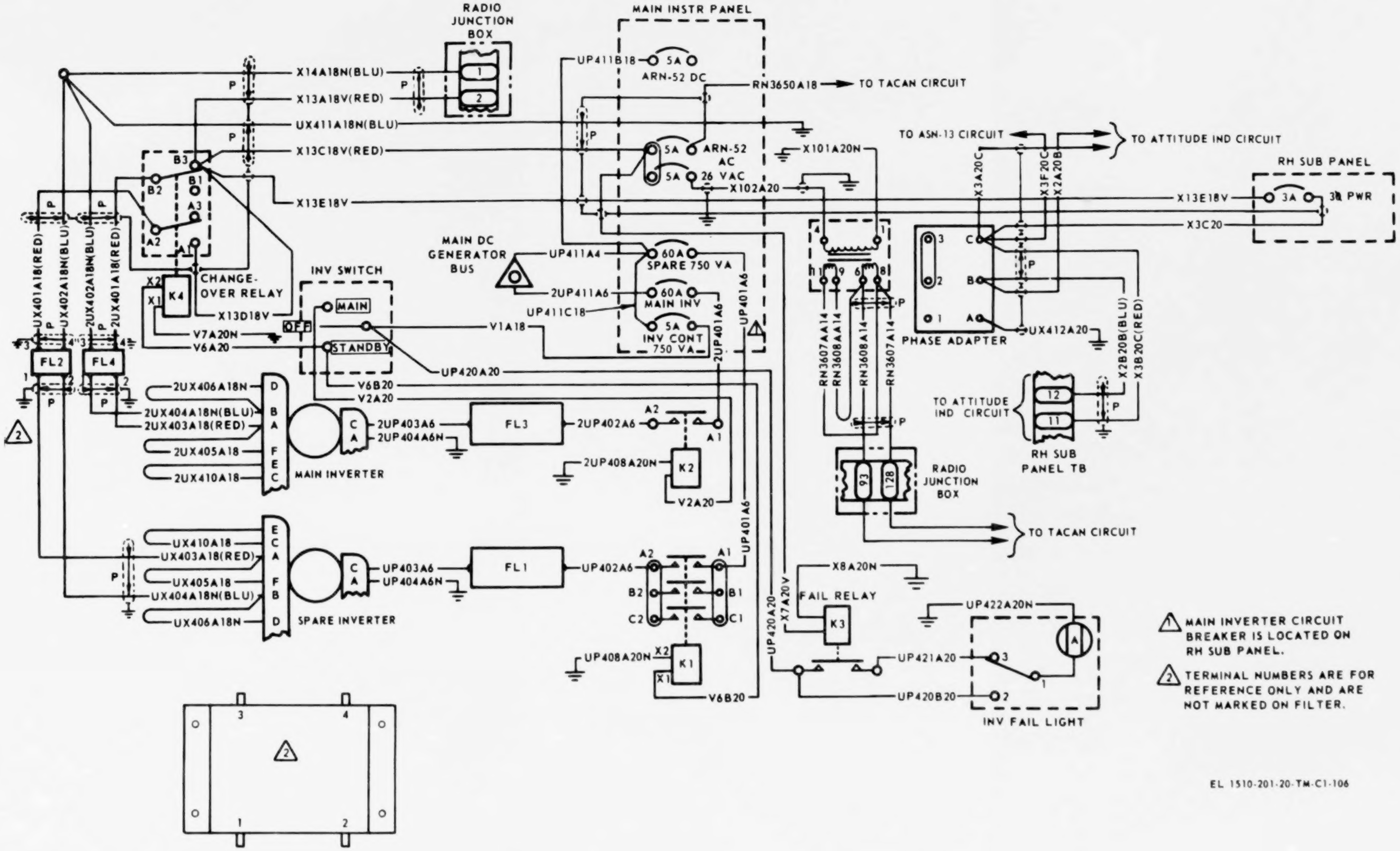

28
31
34
40
C-3436A CONTROL
J1
SQUELCH
MC 5
MC 4
MC 3
MC 2
MC 1
LV IN(108-111 MC)
FRACT MC 1
FRACT MC 2
FRACT MC 3
FRACT MC 4
FRACT MC 5
GRD
ON-OFF CONTROL
A/B SWITCH
333.8-331.1 MC
333.2-333.5 MC
J2
28 VDC
AUDIO
GRD
AUDIO TO INPH
PANEL LTS
RELAY COIL
+28 VDC
J3
332.6-332.9 MC
332.0-332.3 MC
331.4-331.7 MC
330.8-329.3 MC
330.2-330.5 MC
329.6-329.9 MC
335.0-334.1 MC
334.4-334.7 MC
P1
P2
RCVR R-1021/ARN-30D
J304
FLAG ALARM
28 VDC
AUDIO
GRD
28 VDC
RELAY COIL
FLAG ALARM +
P304
J305
+ 28V
GRD
P305
J306
COURSE SEL ROTOR
COURSE SEL STATOR
GRD
COURSE SEL STATOR 2
C-P METER
C-P METER
P306
OMNI II
5 AMP
28 VDC BUS
ID-453 INDICATOR
P1601
FLAG ALARM
C-P METER
C-P METER
FLAG ALARM +
TO-FROM +
TO-FROM −
STATOR E & F
STATOR G
OBS STATOR D
OBS ROTOR GRD
OBS ROTOR A
DEVIATION IND (+)
DEVIATION IND (−)
FLAG (+)
FLAG (−)
1611T3
2RN658A20N
RZ1882A20(BLU)
RZ1881A20(RED)
SEE INTERPHONE SYS
RADIO JCT BOX
G/S RCVR R-746 ( ) AR
334.4-334.7 MC
335.0-334.1 MC
329.6-329.9 MC
330.2-330.5 MC
330.8-339.3 MC
331.4-331.7 MC
332.0-332.3 MC
332.6-332.9 MC
333.2-333.5 MC
333.8-331.1 MC
A/B SWITCH
ON-OFF CONTROL
DEVIATION IND DN.
DEVIATION IND UP
FLAG ALARM −
FLAG ALARM −
GND
GND
27.5 VDC INPUT
115 VAC 400 HZ INPUT
D.C. GLIDE SLOPE
3 AMP
27.5 VDC BUS
3/4 AMP
115 VAC 400 HZ BUS
A.C. GLIDE SLOPE
CV-1275/ARN RMI CONVERTER
26V 400HZ SOURCE
X
Y
STATOR
RELAY COIL
+ 28 VDC
FLAG ALARM
GRD
COURSE SEL ROT R IN
COURSE SEL STAT 1 IN
GRD
COURSE SEL STAT 2 IN
C-P METER(RT +) IN
C-P METER(LT +) IN
STATOR X IN
STATOR Y IN
STATOR Z IN
JUMPER TO B
C-P METER GRD
C-P METER (LT+) IN
FLAG ALARM + OUT
TO-FROM +
TO-FROM −
STATOR E & F
STATOR G
STATOR N
OBS ROTOR GRD
OBS ROTOR A
CV1275 RMI
TM1510-201-20-C-52

Figure 4-27. Vhf navigation facility, configuration C, wiring diagram.

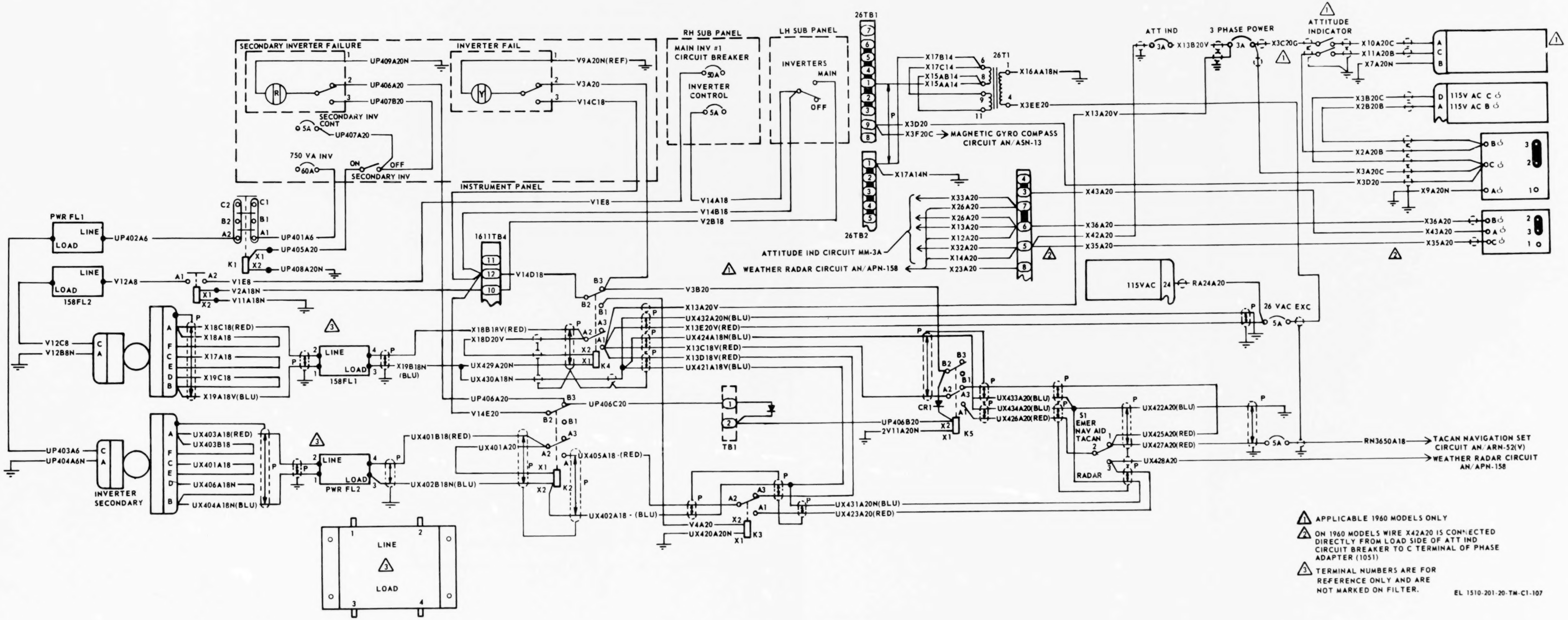

RADIO JUNCTION BOX
MAIN INSTR PANEL
X14A18N(BLU)
X13A18V(RED)
UX411A18N(BLU)
X13C18V(RED)
X13E18V
X13D18V
P
1
2
B3
B1
B2
A3
A2
A1
X2
X1
K4
CHANGE-OVER RELAY
INV SWITCH
MAIN
OFF
STANDBY
V7A20N
V6A20
V6B20
V2A20
V1A18
UP420A20
UX401A18(RED)
UX402A18N(BLU)
2UX402A18N(BLU)
2UX401A18(RED)
FL2
FL4
3
4
2UX406A18N
2UX404A18N(BLU)
2UX403A18(RED)
2UX405A18
2UX410A18
D
B
A
F
E
C
MAIN INVERTER
2UP403A6
2UP404A6N
FL3
2UP402A6
2UP408A20N
K2
UX410A18
UX403A18(RED)
UX405A18
UX404A18N(BLU)
UX406A18N
SPARE INVERTER
UP403A6
UP404A6N
FL1
UP402A6
C2
C1
UP408A20N
K1
V6B20
UP411B18
5A
ARN-52 DC
RN3650A18
TO TACAN CIRCUIT
ARN-52 AC
26 VAC
X101A20N
X102A20
MAIN DC GENERATOR BUS
UP411A4
60A
SPARE 750 VA
2UP411A6
MAIN INV
UP411C18
INV CONT 750 VA
2UP401A6
UP401A6
TO ASN-13 CIRCUIT
TO ATTITUDE IND CIRCUIT
X3A20C
X3F20C
X2A20B
RH SUB PANEL
3A
3ϕ PWR
X3C20
h
9
6
8
RN3607AA14
RN3608AA14
RN3608A14
RN3607A14
PHASE ADAPTER
UX412A20
X2B20B(BLU)
X3B20C(RED)
TO ATTITUDE IND CIRCUIT
12
11
RH SUB PANEL TB
93
128
RADIO JUNCTION BOX
TO TACAN CIRCUIT
UP420A20
X7A20V
X8A20N
FAIL RELAY
K3
UP422A20N
UP421A20
UP420B20
INV FAIL LIGHT

△1 MAIN INVERTER CIRCUIT BREAKER IS LOCATED ON RH SUB PANEL.

△2 TERMINAL NUMBERS ARE FOR REFERENCE ONLY AND ARE NOT MARKED ON FILTER.

EL 1510-201-20-TM-C1-106

Figure 4–32. Ac power supply circuit, configuration A, wiring diagram.


SECONDARY INVERTER FAILURE
INVERTER FAIL
RH SUB PANEL
MAIN INV #1 CIRCUIT BREAKER
50A
INVERTER CONTROL
5A
LH SUB PANEL
INVERTERS
MAIN
OFF
26TB1
26TB2
26T1
ATT IND
3 PHASE POWER
ATTITUDE INDICATOR
UP409A20N
UP406A20
UP407B20
V9A20N(REF)
V3A20
V14C18
SECONDARY INV CONT
UP407A20
750 VA INV
60A
ON
OFF
SECONDARY INV
INSTRUMENT PANEL
X17B14
X17C14
X15AB14
X15AA14
X16AA18N
X3EE20
X3D20
X3F20C
MAGNETIC GYRO COMPASS CIRCUIT AN/ASN-13
X17A14N
X13B20V
X3C20G
X10A20C
X11A20B
X7A20N
115V AC C
115V AC B
X3B20C
X2B20B
X13A20V
X2A20B
X3A20C
X3D20
X9A20N
X43A20
X36A20
X42A20
X35A20
X33A20
X26A20
X13A20
X12A20
X32A20
X14A20
X23A20
ATTITUDE IND CIRCUIT MM-3A
WEATHER RADAR CIRCUIT AN/APN-158
PWR FL1
LINE
LOAD
UP402A6
UP401A6
UP405A20
UP408A20N
K1
V1E8
V14A18
V14B18
V2B18
1611TB4
V14D18
V12A8
158FL2
V2A18N
V11A18N
V3B20
X13A20V
UX432A20N(BLU)
X13E20V(RED)
UX424A18N(BLU)
X13C18V(RED)
X13D18V(RED)
UX421A18V(BLU)
115VAC
RA24A20
26 VAC EXC
5A
V12C8
V12B8N
X18C18(RED)
X18A18
X17A18
X19C18
X19A18V(BLU)
158FL1
X19B18N (BLU)
X18B18V(RED)
X18D20V
UX429A20N
UX430A18N
K4
UP406A20
V14E20
UP406C20
TB1
CR1
UX433A20(BLU)
UX434A20(BLU)
UX426A20(RED)
UP406B20
2V11A20N
K5
UX422A20(BLU)
UX425A20(RED)
UX427A20(RED)
UX428A20
S1 EMER NAV AID TACAN
RADAR
RN3650A18
TACAN NAVIGATION SET CIRCUIT AN/ARN-52(V)
WEATHER RADAR CIRCUIT AN/APN-158
UP403A6
UP404A6N
INVERTER SECONDARY
UX403A18(RED)
UX403B18
UX401A18
UX406A18N
UX404A18N(BLU)
PWR FL2
UX401B18(RED)
UX401A20
UX402B18N(BLU)
UX405A18-(RED)
UX402A18-(BLU)
K2
V4A20
UX420A20N
K3
UX431A20N(BLU)
UX423A20(RED)
LINE
LOAD
3
EL 1510-201-20-TM-C1-107

1. APPLICABLE 1960 MODELS ONLY

2. ON 1960 MODELS WIRE X42A20 IS CONNECTED DIRECTLY FROM LOAD SIDE OF ATT IND CIRCUIT BREAKER TO C TERMINAL OF PHASE ADAPTER (1051)

3. TERMINAL NUMBERS ARE FOR REFERENCE ONLY AND ARE NOT MARKED ON FILTER.

Figure 4-33. Ac power supply circuit, configuration B, wiring diagram.

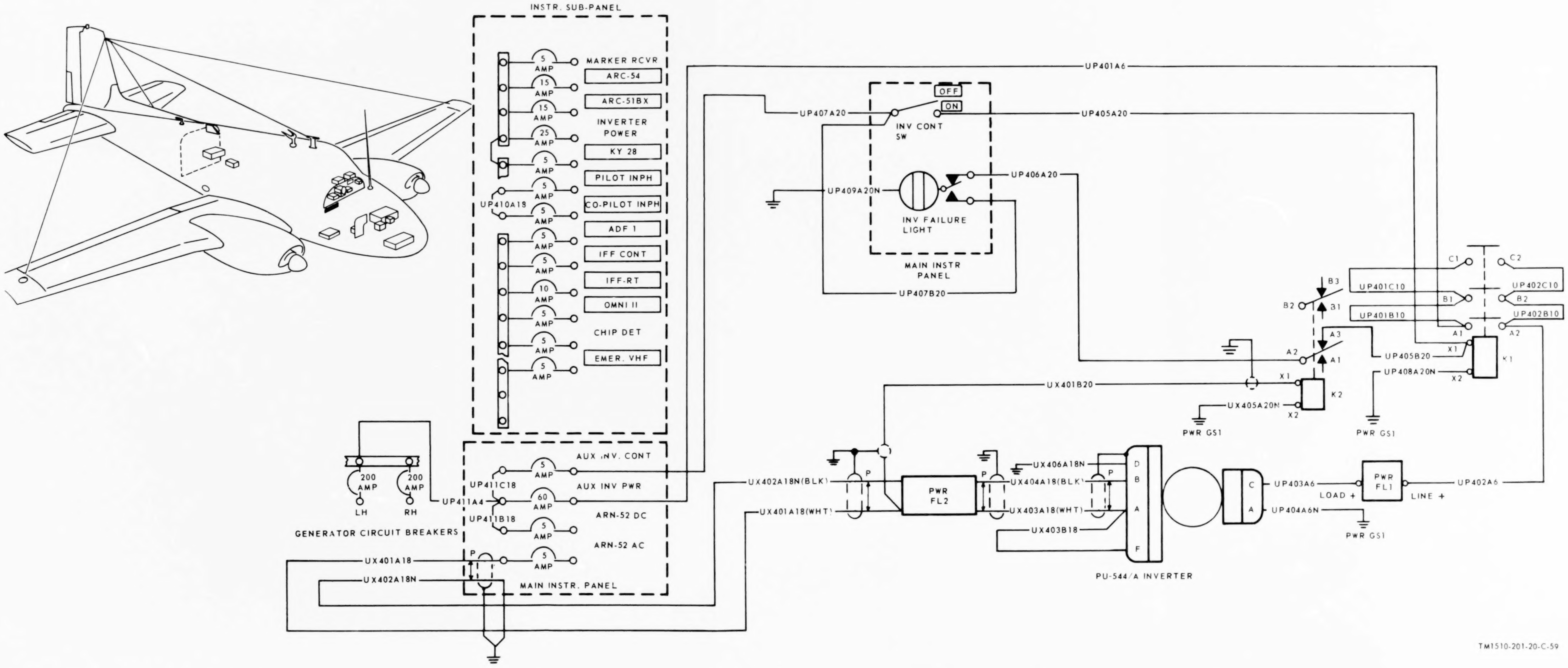
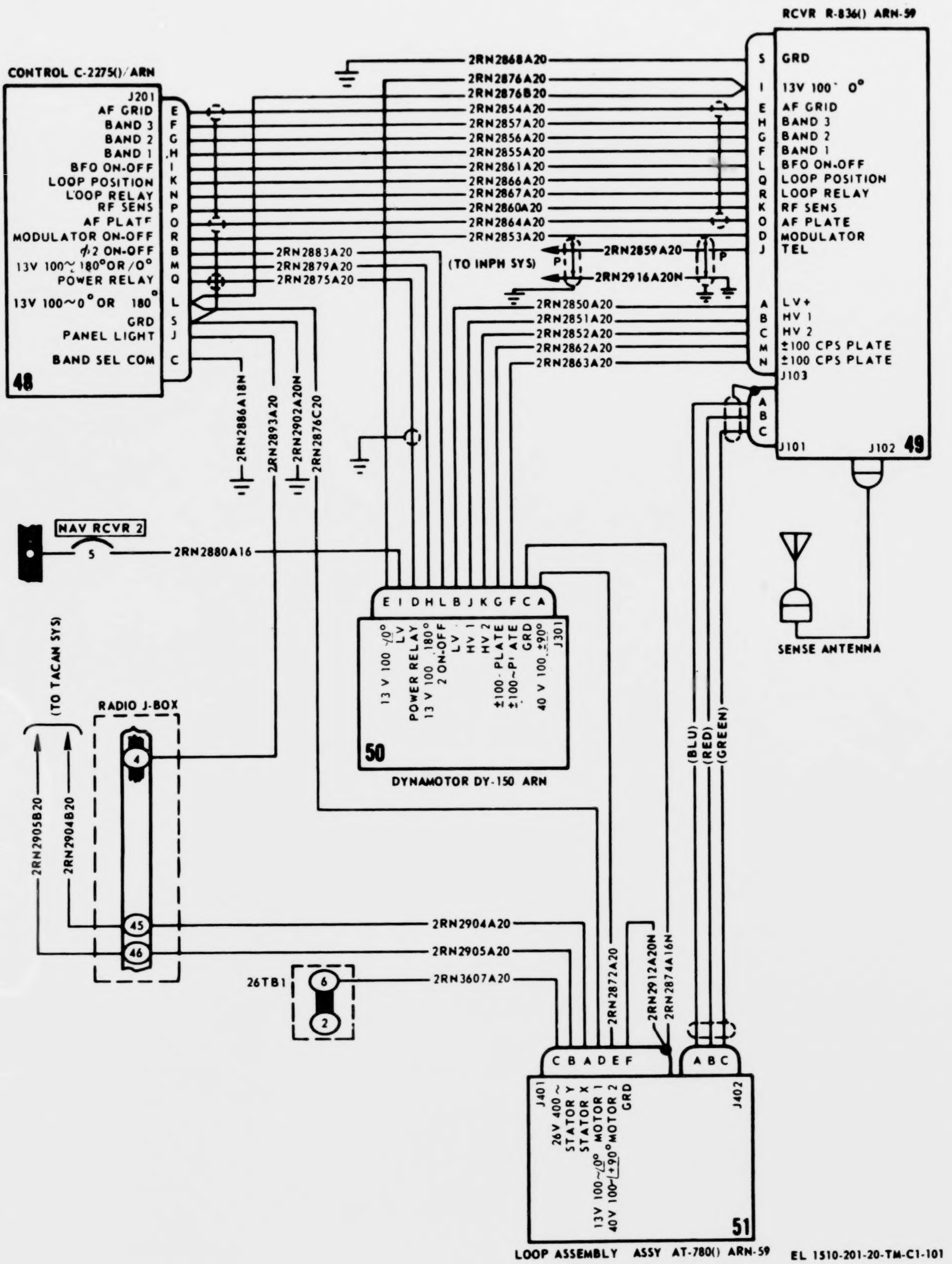
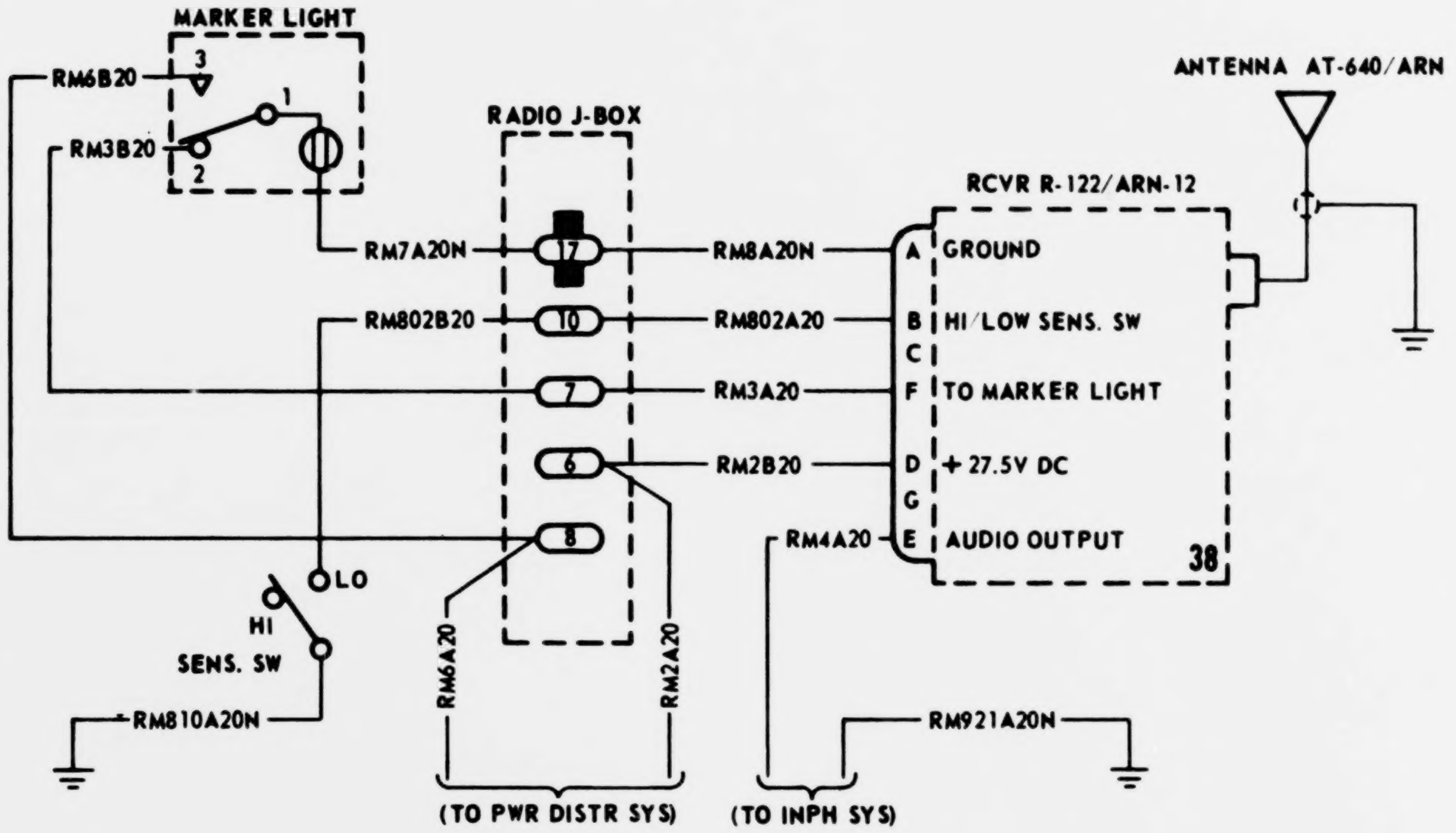

INSTR. SUB-PANEL
5 AMP
MARKER RCVR
15 AMP
ARC-54
15 AMP
ARC-51BX
25 AMP
INVERTER POWER
5 AMP
KY 28
5 AMP
PILOT INPH
UP410A18
5 AMP
CO-PILOT INPH
5 AMP
ADF 1
5 AMP
IFF CONT
10 AMP
IFF-RT
5 AMP
OMNI II
5 AMP
CHIP DET
5 AMP
EMER. VHF
AUX INV. CONT
5 AMP
UP411C18
AUX INV PWR
60 AMP
UP411A4
UP411B18
ARN-52 DC
5 AMP
ARN-52 AC
5 AMP
P
MAIN INSTR. PANEL
200 AMP
200 AMP
LH
RH
GENERATOR CIRCUIT BREAKERS
UX401A18
UX402A18N
UP401A6
OFF
ON
UP407A20
INV CONT SW
UP405A20
UP406A20
UP409A20N
INV FAILURE LIGHT
MAIN INSTR PANEL
UP407B20
C1
C2
B3
UP401C10
UP402C10
B2
B1
B1
B2
UP401B10
UP402B10
A3
A1
A2
A2
A1
UP405B20
X1
K1
UP408A20N
X2
UX401B20
X1
K2
UX405A20N
X2
PWR GS1
PWR GS1
UX406A18N
UX402A18N(BLK)
P
P
UX404A18(BLK)
P
D
B
PWR FL2
UX401A18(WHT)
UX403A18(WHT)
A
C
A
UP403A6
LOAD +
PWR FL1
LINE +
UP402A6
UP404A6N
UX403B18
F
PWR GS1
PU-544/A INVERTER
TM1510-201-20-C-59

Figure 4-34. Power distribution modification configuration C, wiring diagram.


RCVR R-836() ARN-59
CONTROL C-2275()/ARN
J201
AF GRID E
BAND 3 F
BAND 2 G
BAND 1 H
BFO ON-OFF I
LOOP POSITION K
LOOP RELAY N
RF SENS P
AF PLATE O
MODULATOR ON-OFF R
ϕ2 ON-OFF B
13V 100~ 180° OR 0° M
POWER RELAY Q
13V 100~0° OR 180° L
GRD S
PANEL LIGHT J
BAND SEL COM C
48
2RN2868A20
2RN2876A20
2RN2876B20
2RN2854A20
2RN2857A20
2RN2856A20
2RN2855A20
2RN2861A20
2RN2866A20
2RN2867A20
2RN2860A20
2RN2864A20
2RN2853A20
2RN2883A20
2RN2879A20
2RN2875A20
(TO INPH SYS)
2RN2859A20
2RN2916A20N
P
2RN2850A20
2RN2851A20
2RN2852A20
2RN2862A20
2RN2863A20
S GRD
I 13V 100~ 0°
E AF GRID
H BAND 3
G BAND 2
F BAND 1
L BFO ON-OFF
Q LOOP POSITION
R LOOP RELAY
K RF SENS
O AF PLATE
D MODULATOR
J TEL
A LV+
B HV 1
C HV 2
M ±100 CPS PLATE
N ±100 CPS PLATE
J103
A B C
J101
J102
49
SENSE ANTENNA
2RN2886A18N
2RN2893A20
2RN2902A20N
2RN2876C20
NAV RCVR 2
5
2RN2880A16
E I D H L B J K G F C A
13 V 100 ∠0°
LV
POWER RELAY
13 V 100 180°
2 ON-OFF
LV
HV 1
HV 2
±100 PLATE
±100~PLATE
GRD
40 V 100 ±90°
J301
50
DYNAMOTOR DY-150 ARN
(TO TACAN SYS)
RADIO J-BOX
4
45
46
2RN2905B20
2RN2904B20
2RN2904A20
2RN2905A20
26TB1
6
2
2RN3607A20
2RN2872A20
2RN2912A20N
2RN2874A16N
(BLU)
(RED)
(GREEN)
C B A D E F
A B C
J401
26V 400~
STATOR Y
STATOR X
13V 100~∠0° MOTOR 1
40V 100~±90° MOTOR 2
GRD
J402
51
LOOP ASSEMBLY ASSY AT-780() ARN-59

EL 1510-201-20-TM-C1-101

Figure 4-29.1 ADF navigation facility, ADF No. 2, configuration B, wiring diagram.


MARKER LIGHT
RM6B20
3
1
RM3B20
2
RADIO J-BOX
ANTENNA AT-640/ARN
RCVR R-122/ARN-12
RM7A20N
17
RM8A20N
A
GROUND
RM802B20
10
RM802A20
B
HI/LOW SENS. SW
C
7
RM3A20
F
TO MARKER LIGHT
6
RM2B20
D
+ 27.5V DC
G
8
RM4A20
E
AUDIO OUTPUT
38
LO
HI
SENS. SW
RM810A20N
RM6A20
RM2A20
RM921A20N
(TO PWR DISTR SYS)
(TO INPH SYS)

EFFECTIVE ON AIRCRAFT
SERIAL NO.'S
56-3696, 56-3698, 56-3701,
56-3705, 56-3708, 56-3709,
56-3716 THRU 56-3718,
57-3084 THRU 57-3087,
57-6034, 57-6036, 57-6038,
57-6040 THRU 57-6043,
57-6084, 57-6086 AND
57-6092 THRU 57-6094

EL 1510-201-20-TM-C1-102

Figure 4–30. Marker beacon AN/ARN–12 circuit, configuration A, wiring diagram.

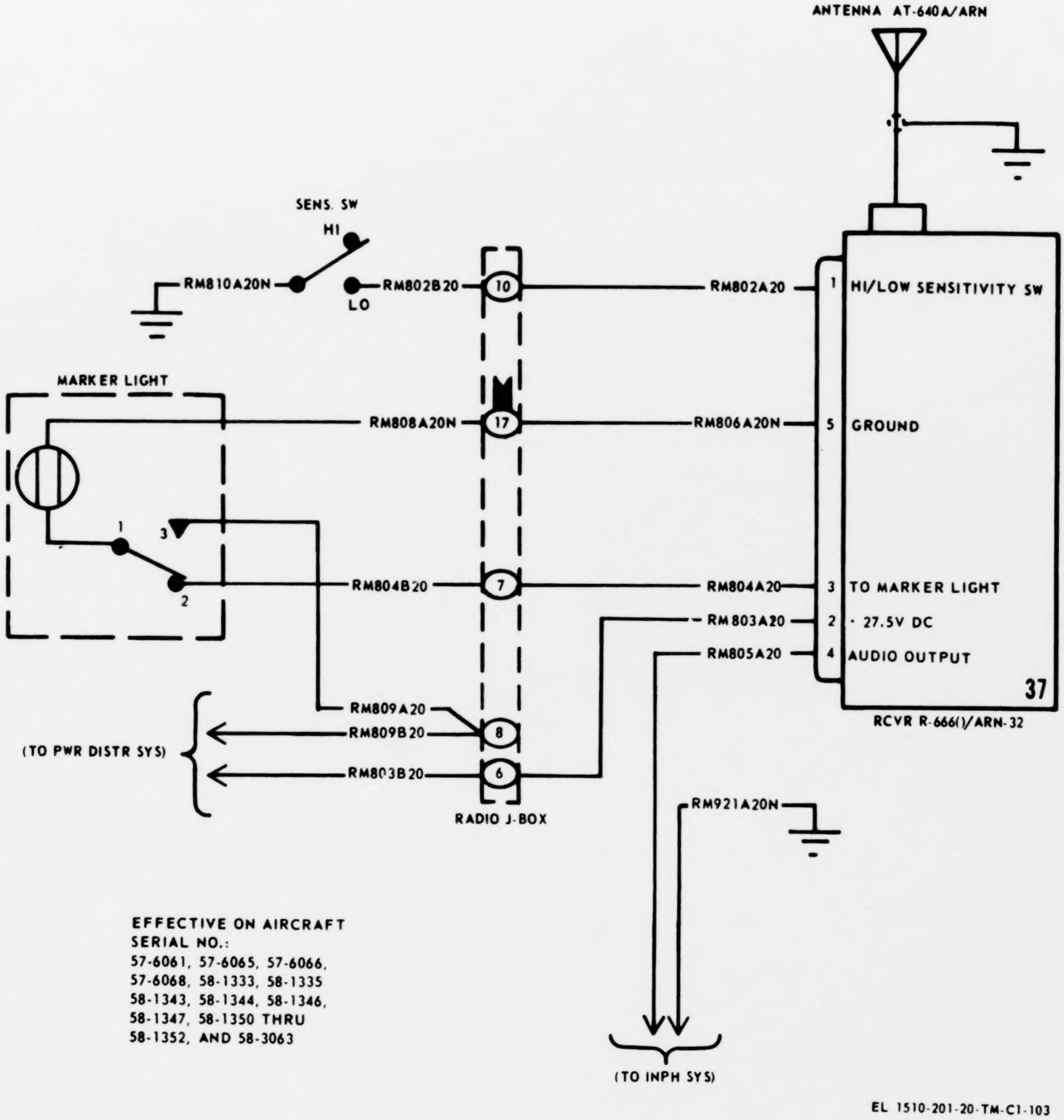

ANTENNA AT-640A/ARN
SENS. SW
HI
LO
RM810A20N
RM802B20
10
RM802A20
1 HI/LOW SENSITIVITY SW
MARKER LIGHT
RM808A20N
17
RM806A20N
5 GROUND
1
3
2
RM804B20
7
RM804A20
3 TO MARKER LIGHT
RM803A20
2 + 27.5V DC
RM805A20
4 AUDIO OUTPUT
37
RCVR R-666()/ARN-32
RM809A20
RM809B20
8
(TO PWR DISTR SYS)
RM803B20
6
RADIO J-BOX
RM921A20N
(TO INPH SYS)
EFFECTIVE ON AIRCRAFT
SERIAL NO.:
57-6061, 57-6065, 57-6066,
57-6068, 58-1333, 58-1335
58-1343, 58-1344, 58-1346,
58-1347, 58-1350 THRU
58-1352, AND 58-3063
EL 1510-201-20-TM-C1-103

Figure 4–30.1 Marker beacon AN/ARN–32 circuit, configuration A, wiring diagram.

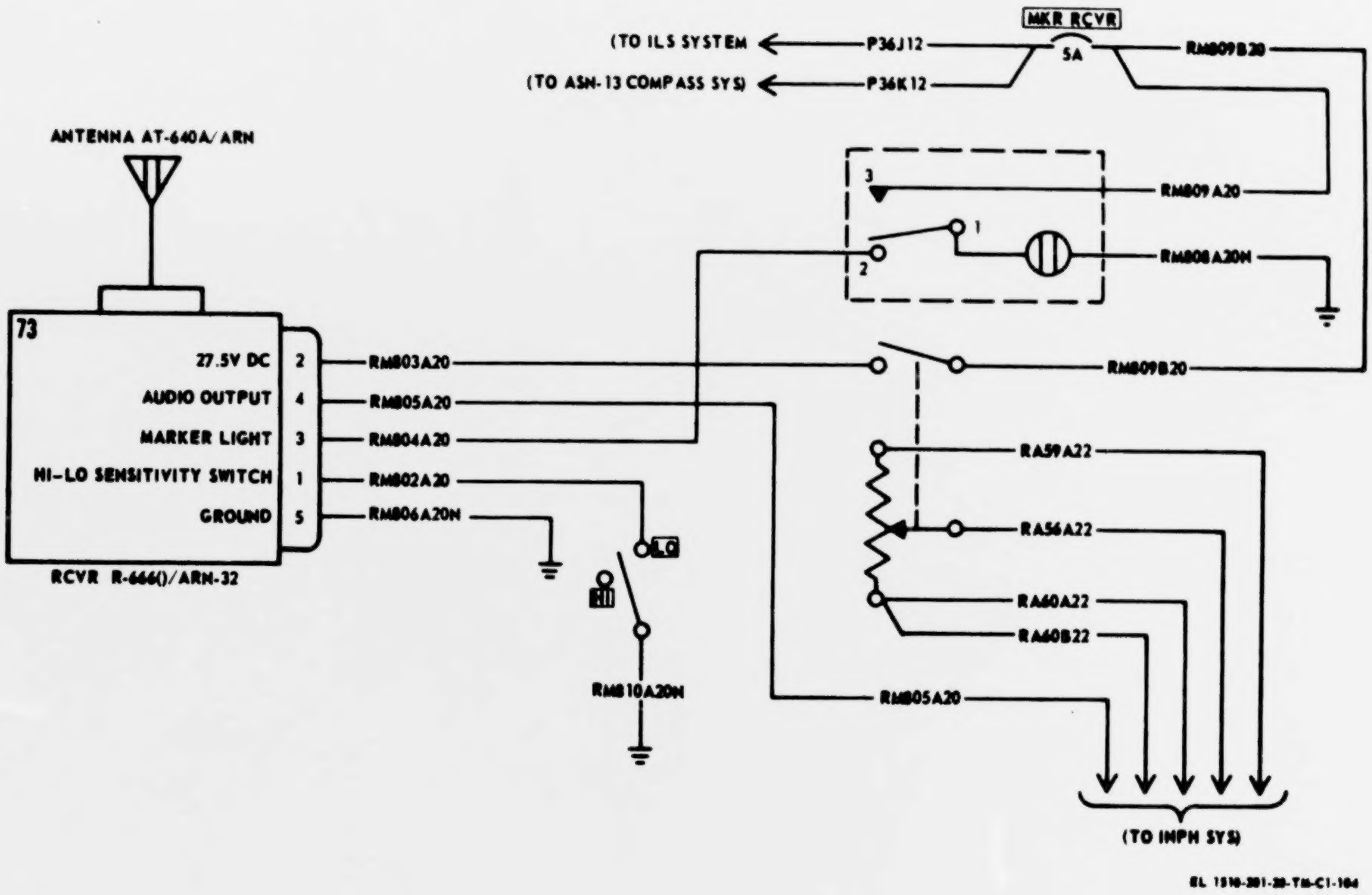

MKR RCVR
5A
(TO ILS SYSTEM
P36J12
(TO ASN-13 COMPASS SYS)
P36K12
RM809B20
ANTENNA AT-640A/ARN
3
RM809 A20
1
2
RM808A20N
73
27.5V DC
2
AUDIO OUTPUT
4
MARKER LIGHT
3
HI–LO SENSITIVITY SWITCH
1
GROUND
5
RCVR R-666()/ARN-32
RM803A20
RM805A20
RM804A20
RM802A20
RM806A20N
RM809B20
LO
HI
RM810A20N
RA59A22
RA56A22
RA60A22
RA60B22
RM805A20
(TO INPH SYS)
EL 1510-201-20-TM-C1-104

Figure 4–31. Marker beacon AN/ARN–32 circuit, configuration B, wiring diagram.

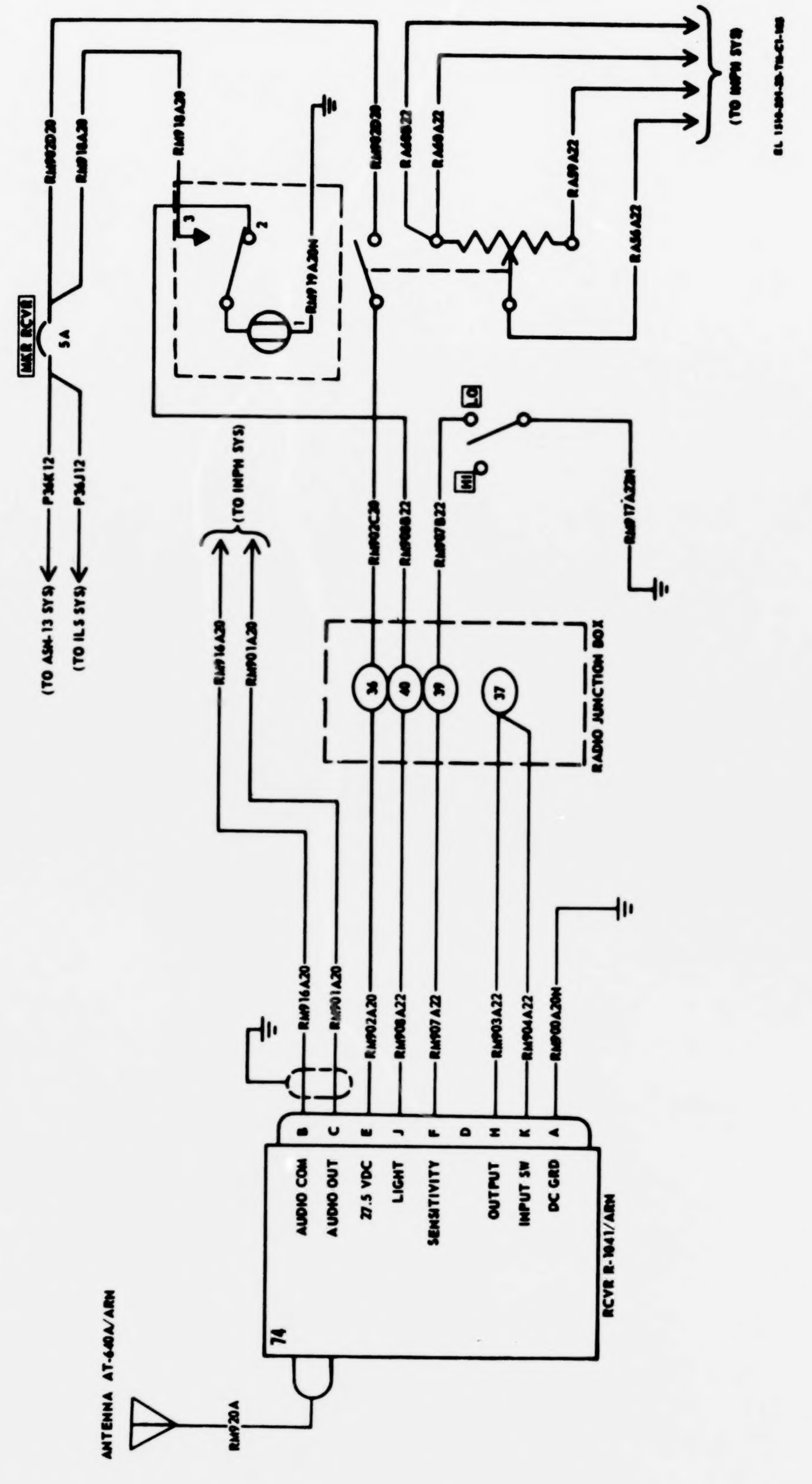
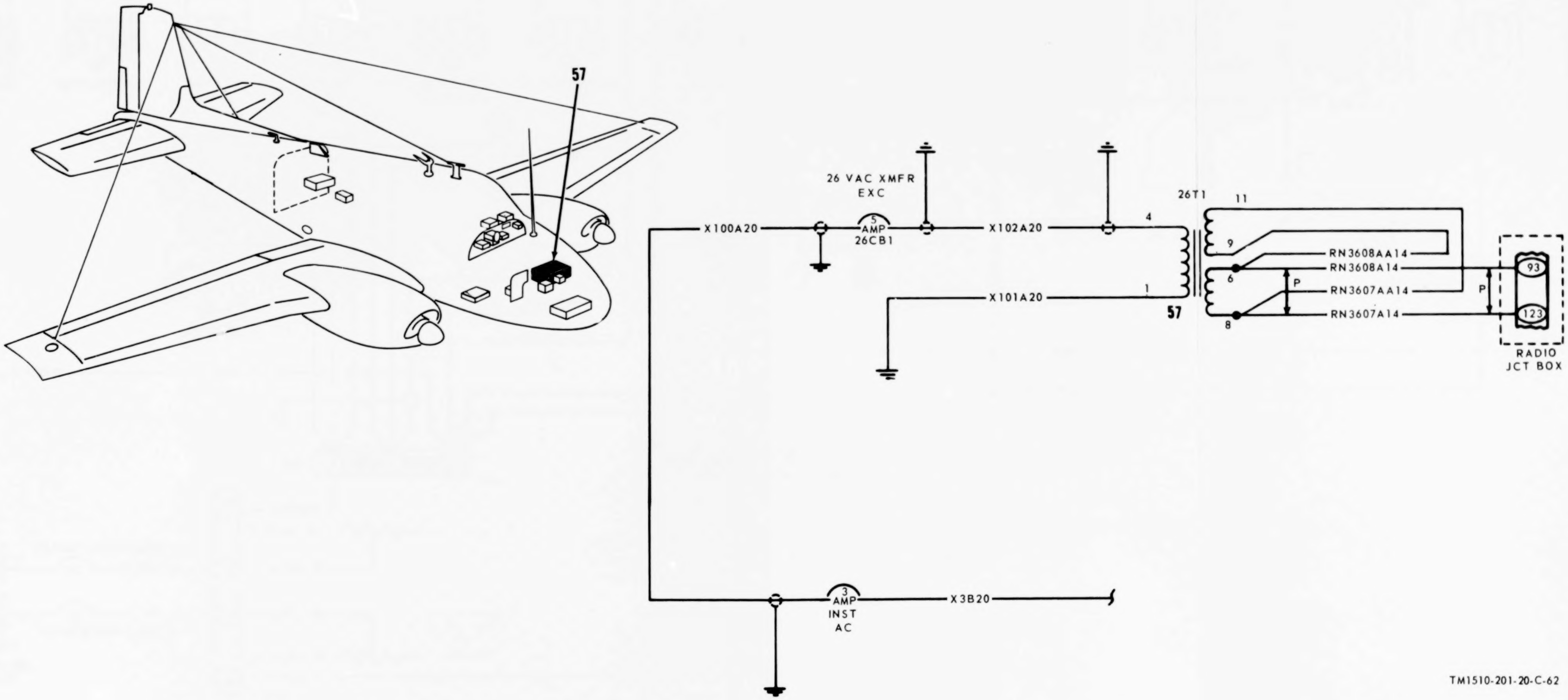

ANTENNA AT-640A/ARN
RM920A
74
RCVR R-1041/ARN
AUDIO COM
AUDIO OUT
27.5 VDC
LIGHT
SENSITIVITY
OUTPUT
INPUT SW
DC GRD
B
C
E
J
F
D
H
K
A
RM916A20
RM901A20
RM902A20
RM908A22
RM907A22
RM903A22
RM904A22
RM900A20N
RADIO JUNCTION BOX
36
40
39
37
(TO INPH SYS)
RM902C20
RM908B22
RM907B22
RM917A22N
HI
LO
(TO ASN-13 SYS)
(TO ILS SYS)
P36K12
P36J12
MKR RCVR
5A
RM902D20
RM918A20
RM919A20N
1
2
3
RM902B20
RA468B22
RA469A22
RA470A22
RA566A22
(TO INPH SYS)

Figure 4-31.1 Marker beacon R-1041/ARN circuit, configuration B, wiring diagram.


57
26 VAC XMFR
EXC
X100A20
5
AMP
26CB1
X102A20
26T1
11
4
9
RN3608AA14
RN3608A14
6
P
RN3607AA14
P
93
RN3607A14
123
1
X101A20
57
8
RADIO
JCT BOX
3
AMP
INST
AC
X3B20

TM1510-201-20-C-62

Figure 4-37. 26 VAC transformer excitation, configuration C, wiring diagram.

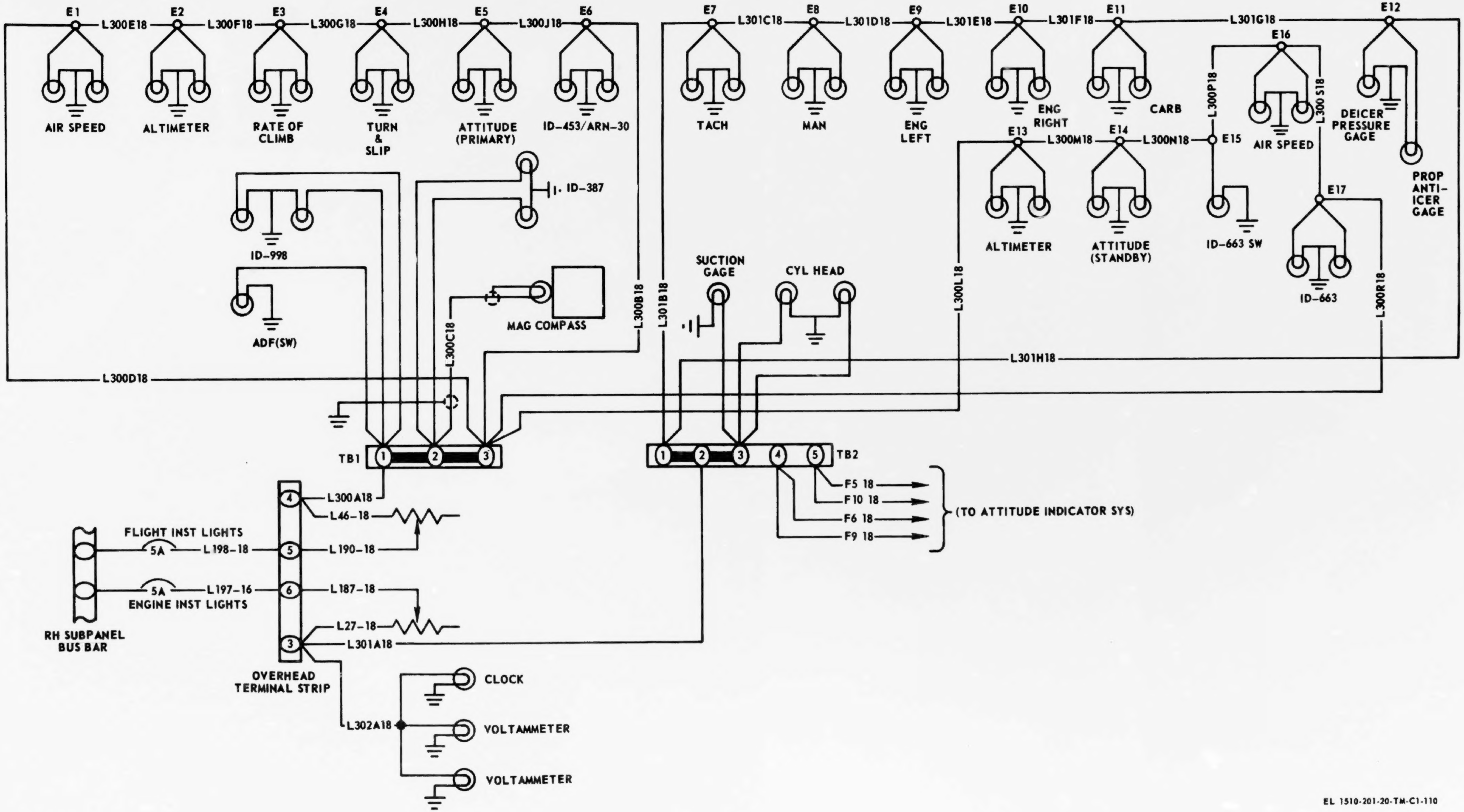

E1
L300E18
E2
L300F18
E3
L300G18
E4
L300H18
E5
L300J18
E6
E7
L301C18
E8
L301D18
E9
L301E18
E10
L301F18
E11
L301G18
E12
E16
AIR SPEED
ALTIMETER
RATE OF CLIMB
TURN & SLIP
ATTITUDE (PRIMARY)
ID-453/ARN-30
TACH
MAN
ENG LEFT
ENG RIGHT
CARB
L300P18
L300S18
DEICER PRESSURE GAGE
E13
L300M18
E14
L300N18
E15
AIR SPEED
PROP ANTI-ICER GAGE
ID-387
ID-998
ALTIMETER
ATTITUDE (STANDBY)
ID-663 SW
E17
ID-663
ADF(SW)
MAG COMPASS
L300C18
L300B18
L301B18
SUCTION GAGE
CYL HEAD
L300L18
L300R18
L301H18
L300D18
TB1
TB2
F5 18
F10 18
F6 18
F9 18
(TO ATTITUDE INDICATOR SYS)
L300A18
L46-18
FLIGHT INST LIGHTS
5A
L198-18
L190-18
5A
L197-16
L187-18
ENGINE INST LIGHTS
L27-18
L301A18
RH SUBPANEL BUS BAR
OVERHEAD TERMINAL STRIP
CLOCK
L302A18
VOLTAMMETER
VOLTAMMETER
EL 1510-201-20-TM-C1-110

Figure 4-38. Instrument panel lights, configurations A and C, wiring diagram.

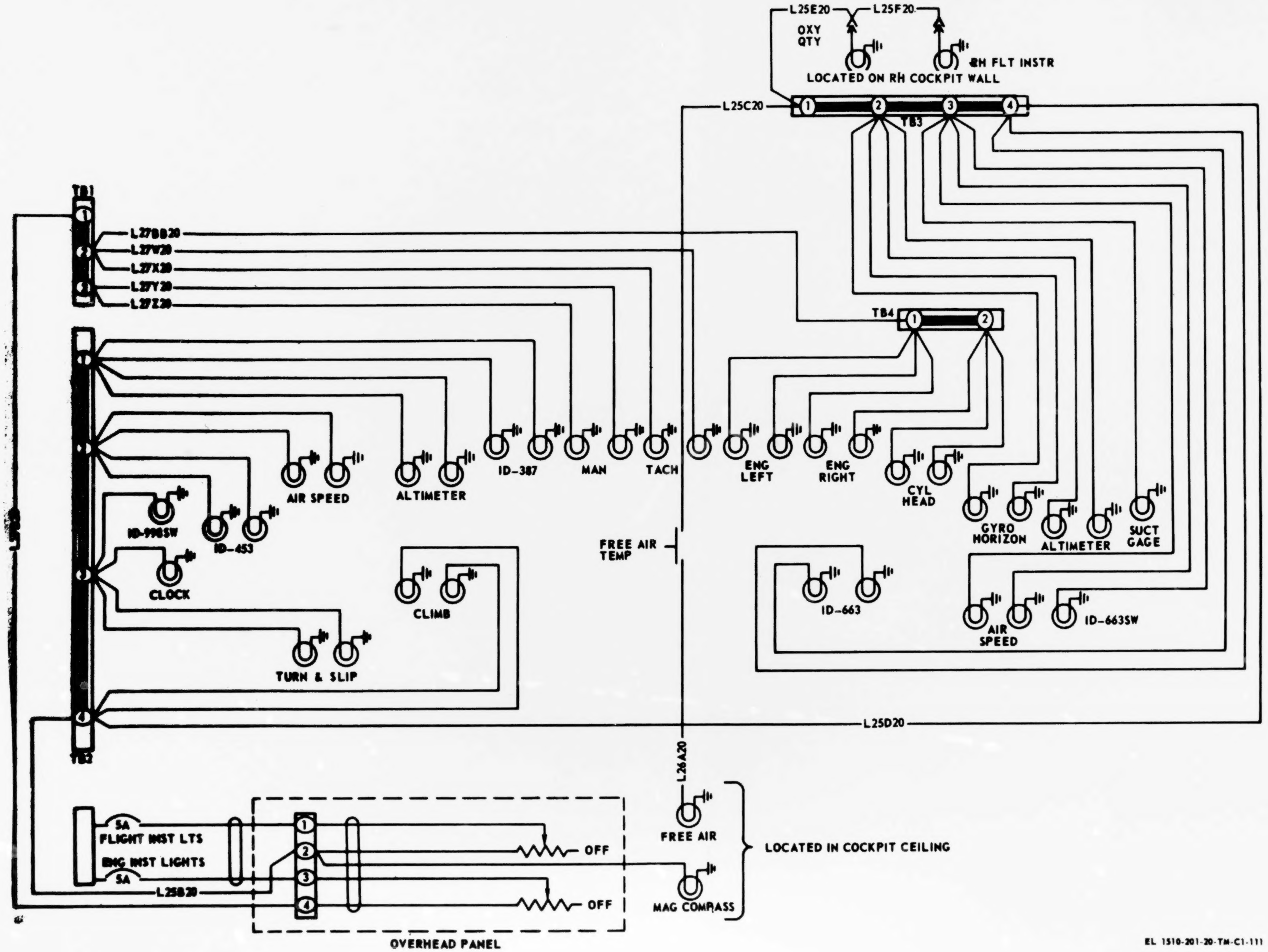

L25E20
L25F20
OXY QTY
RH FLT INSTR
LOCATED ON RH COCKPIT WALL
L25C20
TB3
TB1
L27BB20
L27W20
L27X20
L27Y20
L27Z20
TB4
ID–387
MAN
TACH
ENG LEFT
ENG RIGHT
CYL HEAD
AIR SPEED
ALTIMETER
ID-998SW
ID–453
CLOCK
CLIMB
TURN & SLIP
FREE AIR TEMP
GYRO HORIZON
ALTIMETER
SUCT GAGE
ID–663
AIR SPEED
ID–663SW
L25D20
TB2
L26A20
5A
FLIGHT INST LTS
ENG INST LIGHTS
5A
L25B20
OFF
OFF
OVERHEAD PANEL
FREE AIR
MAG COMPASS
LOCATED IN COCKPIT CEILING
EL 1510-201-20-TM-C1-111

Figure 4–39. Instrument panel lights, configuration B, wiring diagram.

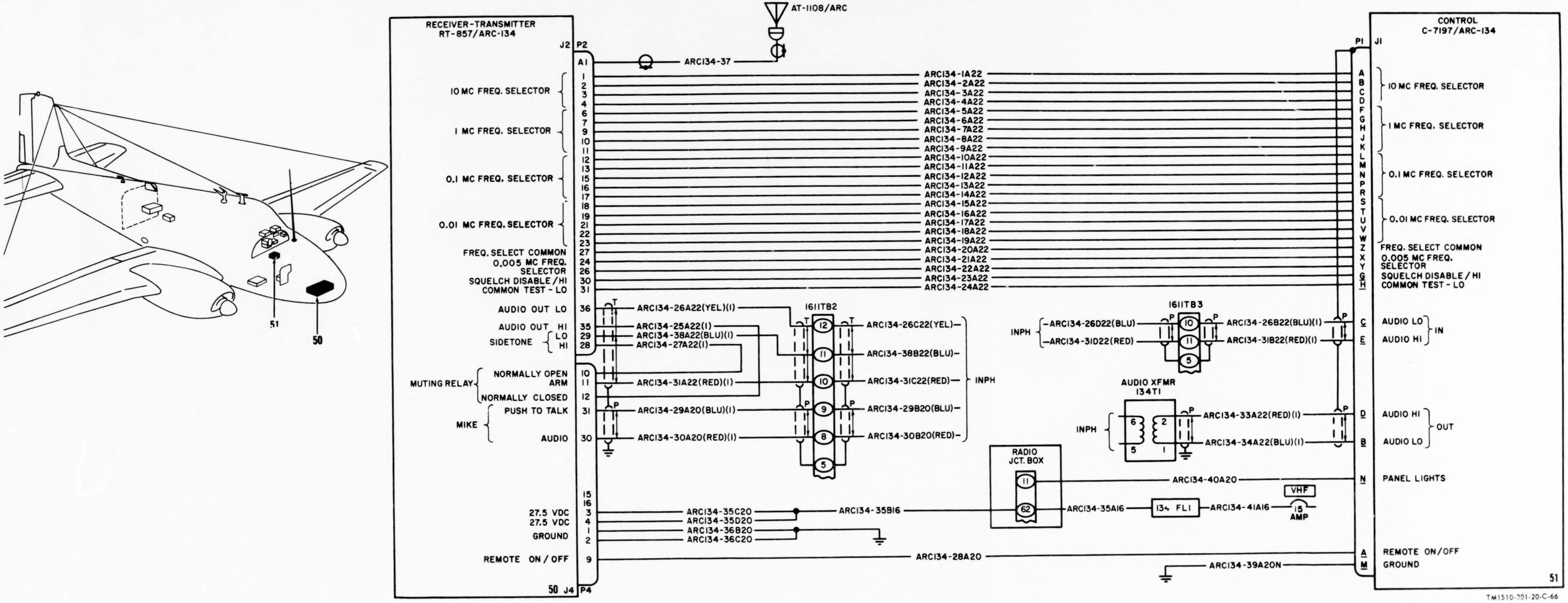
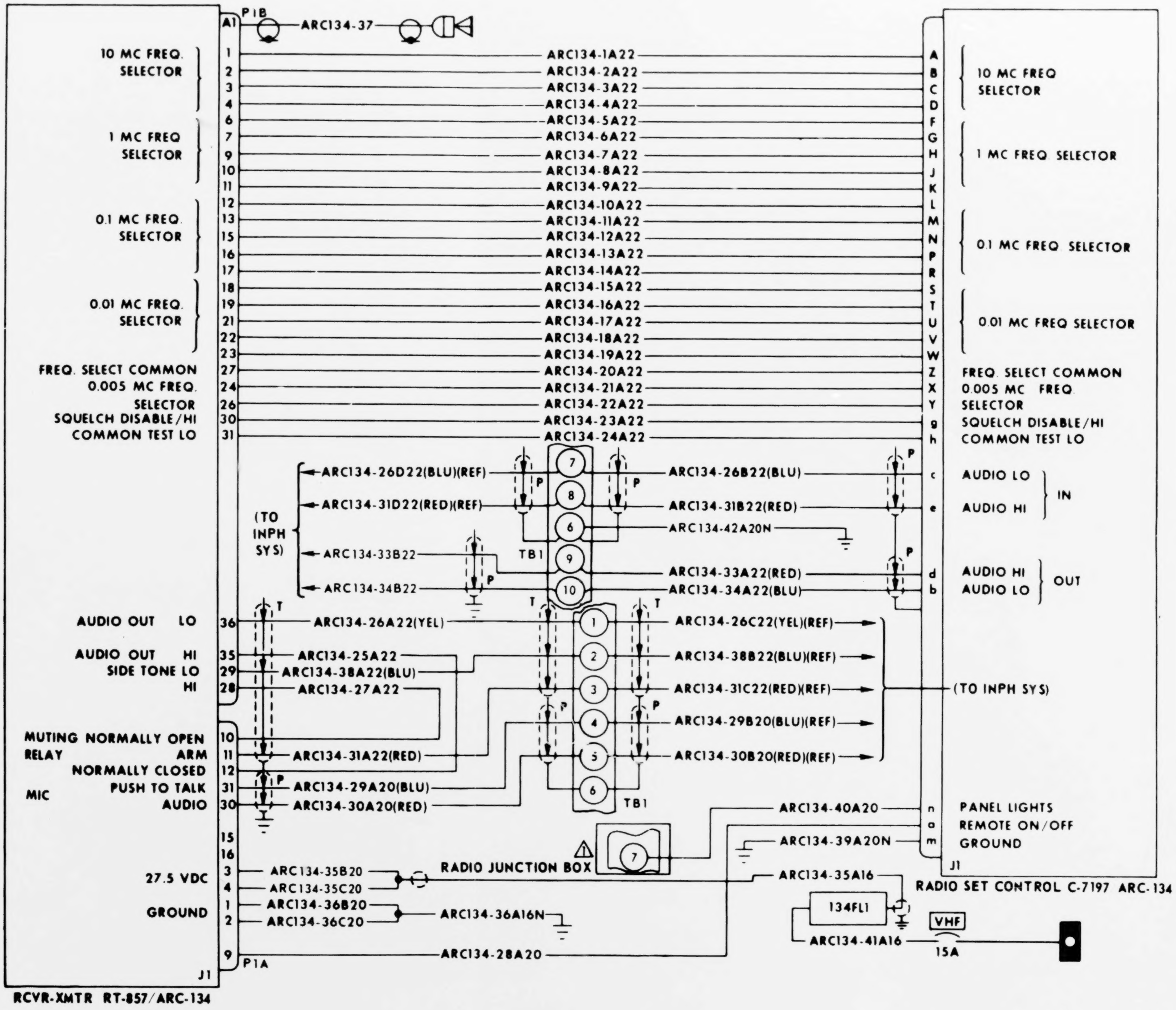

51
50
AT-1108/ARC
RECEIVER-TRANSMITTER RT-857/ARC-134
J2 P2
A1
ARC134-37
10 MC FREQ. SELECTOR
1 MC FREQ. SELECTOR
0.1 MC FREQ. SELECTOR
0.01 MC FREQ. SELECTOR
FREQ. SELECT COMMON
0.005 MC FREQ. SELECTOR
SQUELCH DISABLE / HI
COMMON TEST - LO
1 2 3 4 6 7 9 10 11 12 13 15 16 17 18 19 21 22 23 27 24 26 30 31
ARC134-1A22
ARC134-2A22
ARC134-3A22
ARC134-4A22
ARC134-5A22
ARC134-6A22
ARC134-7A22
ARC134-8A22
ARC134-9A22
ARC134-10A22
ARC134-11A22
ARC134-12A22
ARC134-13A22
ARC134-14A22
ARC134-15A22
ARC134-16A22
ARC134-17A22
ARC134-18A22
ARC134-19A22
ARC134-20A22
ARC134-21A22
ARC134-22A22
ARC134-23A22
ARC134-24A22
AUDIO OUT LO 36
AUDIO OUT HI 35
SIDETONE LO 29
HI 28
MUTING RELAY NORMALLY OPEN 10
ARM 11
NORMALLY CLOSED 12
MIKE PUSH TO TALK 31
AUDIO 30
T
P
ARC134-26A22(YEL)(I)
ARC134-25A22(I)
ARC134-38A22(BLU)(I)
ARC134-27A22(I)
ARC134-31A22(RED)(I)
ARC134-29A20(BLU)(I)
ARC134-30A20(RED)(I)
1611TB2
12 11 10 9 8 5
ARC134-26C22(YEL)
ARC134-38B22(BLU)
ARC134-31C22(RED)
ARC134-29B20(BLU)
ARC134-30B20(RED)
INPH
15
16
27.5 VDC 3
27.5 VDC 4
GROUND 1
2
REMOTE ON / OFF 9
ARC134-35C20
ARC134-35D20
ARC134-36B20
ARC134-36C20
ARC134-35B16
ARC134-28A20
50 J4 P4
1611TB3
INPH
ARC134-26D22(BLU)
ARC134-31D22(RED)
10 11 5
ARC134-26B22(BLU)(I)
ARC134-31B22(RED)(I)
AUDIO XFMR 134T1
6 5 2 1
ARC134-33A22(RED)(I)
ARC134-34A22(BLU)(I)
RADIO JCT. BOX
11 62
ARC134-40A20
ARC134-35A16
134 FL1
ARC134-41A16
VHF
15 AMP
ARC134-39A20N
CONTROL C-7197/ARC-134
P1 J1
A B C D E F G H J K L M N P R S T U V W Z X Y G H
10 MC FREQ. SELECTOR
1 MC FREQ. SELECTOR
0.1 MC FREQ. SELECTOR
0.01 MC FREQ. SELECTOR
FREQ. SELECT COMMON
0.005 MC FREQ. SELECTOR
SQUELCH DISABLE / HI
COMMON TEST - LO
C AUDIO LO
E AUDIO HI
IN
D AUDIO HI
B AUDIO LO
OUT
N PANEL LIGHTS
A REMOTE ON/OFF
M GROUND
51
TM1510-201-20-C-66

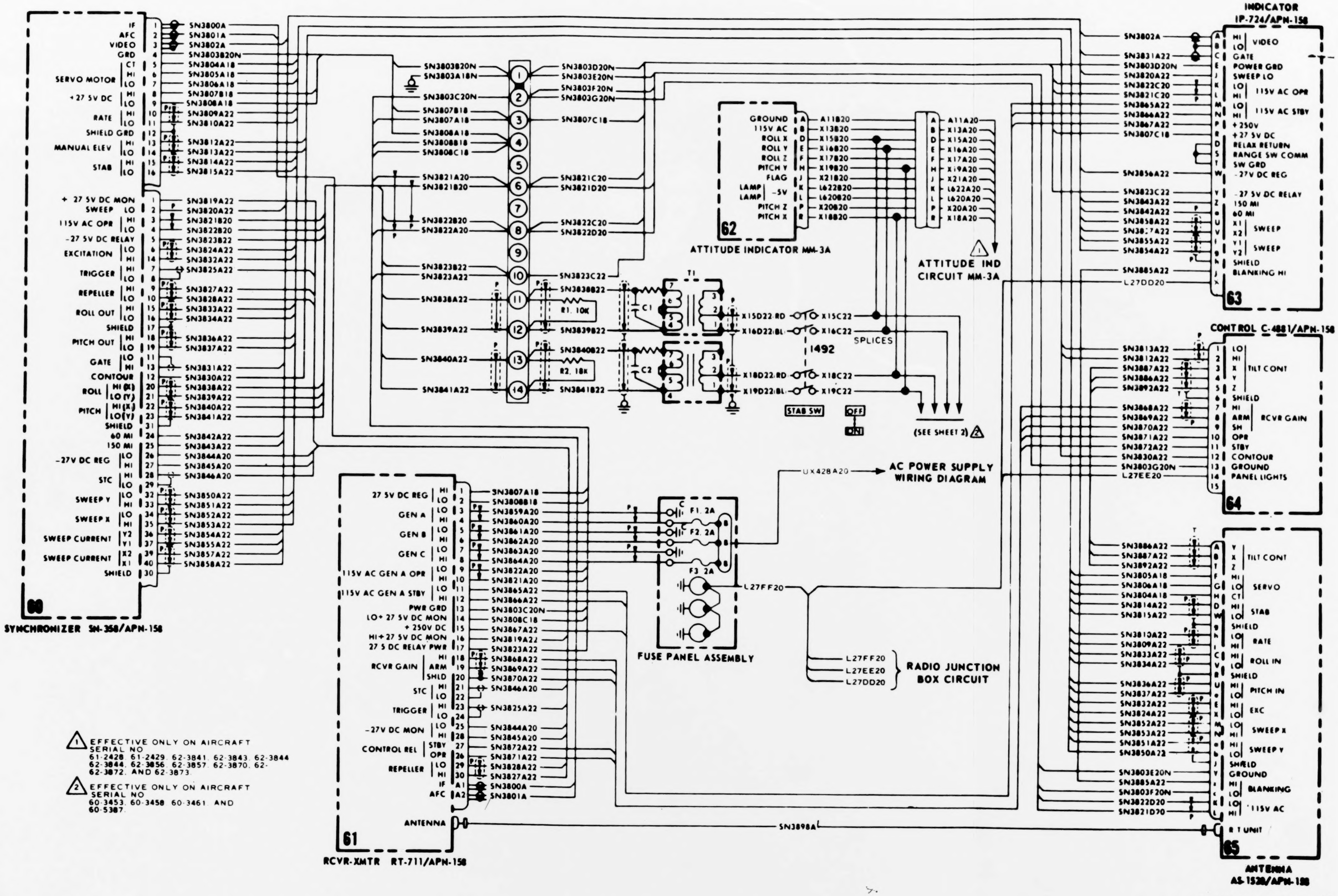
Figure 4-40. Vhf communication facility, configuration C, wiring diagram.


P1B
A1
ARC134-37
10 MC FREQ. SELECTOR
1 MC FREQ SELECTOR
0.1 MC FREQ. SELECTOR
0.01 MC FREQ. SELECTOR
FREQ. SELECT COMMON
0.005 MC FREQ. SELECTOR
SQUELCH DISABLE/HI
COMMON TEST LO
ARC134-1A22
ARC134-2A22
ARC134-3A22
ARC134-4A22
ARC134-5A22
ARC134-6A22
ARC134-7A22
ARC134-8A22
ARC134-9A22
ARC134-10A22
ARC134-11A22
ARC134-12A22
ARC134-13A22
ARC134-14A22
ARC134-15A22
ARC134-16A22
ARC134-17A22
ARC134-18A22
ARC134-19A22
ARC134-20A22
ARC134-21A22
ARC134-22A22
ARC134-23A22
ARC134-24A22
10 MC FREQ SELECTOR
1 MC FREQ SELECTOR
0.1 MC FREQ. SELECTOR
0.01 MC FREQ SELECTOR
FREQ. SELECT COMMON
0.005 MC FREQ. SELECTOR
SQUELCH DISABLE/HI
COMMON TEST LO
(TO INPH SYS)
ARC134-26D22(BLU)(REF)
ARC134-31D22(RED)(REF)
ARC134-33B22
ARC134-34B22
ARC134-26B22(BLU)
ARC134-31B22(RED)
ARC134-42A20N
ARC134-33A22(RED)
ARC134-34A22(BLU)
TB1
AUDIO LO
AUDIO HI
IN
AUDIO HI
AUDIO LO
OUT
AUDIO OUT LO
AUDIO OUT HI
SIDE TONE LO
HI
ARC134-26A22(YEL)
ARC134-25A22
ARC134-38A22(BLU)
ARC134-27A22
ARC134-26C22(YEL)(REF)
ARC134-38B22(BLU)(REF)
ARC134-31C22(RED)(REF)
ARC134-29B20(BLU)(REF)
ARC134-30B20(RED)(REF)
(TO INPH SYS)
MUTING NORMALLY OPEN
RELAY ARM
NORMALLY CLOSED
MIC PUSH TO TALK
AUDIO
ARC134-31A22(RED)
ARC134-29A20(BLU)
ARC134-30A20(RED)
TB1
ARC134-40A20
ARC134-39A20N
PANEL LIGHTS
REMOTE ON/OFF
GROUND
J1
RADIO JUNCTION BOX
27.5 VDC
GROUND
ARC134-35B20
ARC134-35C20
ARC134-36B20
ARC134-36C20
ARC134-36A16N
ARC134-35A16
134FL1
ARC134-41A16
VHF
15A
ARC134-28A20
P1A
J1
RADIO SET CONTROL C-7197 ARC-134
RCVR-XMTR RT-857/ARC-134

⚠ ARC-134-40A20 TERMINATES
AT RADIO JUNCTION BOX
TERMINAL 7 ON U-8F
AIRCRAFT-TERMINAL 11
ON U-8D.

EL 1510-201-20-TM-C1-112

Figure 4–41. VHF communication facility, configurations A and B, wiring diagram.


60
SYNCHRONIZER SN-358/APN-158
61
RCVR-XMTR RT-711/APN-158
62
ATTITUDE INDICATOR MM-3A
ATTITUDE IND CIRCUIT MM-3A
63
INDICATOR IP-724/APN-158
64
CONTROL C-4881/APN-158
65
ANTENNA AS-1520/APN-158
FUSE PANEL ASSEMBLY
F1 2A
F2 2A
F3 2A
AC POWER SUPPLY WIRING DIAGRAM
RADIO JUNCTION BOX CIRCUIT
T1
C1
C2
R1, 10K
R2, 18K
SPLICES
1492
STAB SW
OFF
ON
(SEE SHEET 2)
SN3898A

1 EFFECTIVE ONLY ON AIRCRAFT SERIAL NO 61-2428, 61-2429, 62-3841, 62-3843, 62-3844 62-3844, 62-3856, 62-3857, 62-3870, 62-62-3872, AND 62-3873.

2 EFFECTIVE ONLY ON AIRCRAFT SERIAL NO 60-3453, 60-3458, 60-3461, AND 60-5387.

EL 1510-201-20-TM-C1-113 ①

Figure ~~4-42~~①. Weather radar circuit AN/APN-158, configuration B, wiring diagram (sheet 1 of 2).

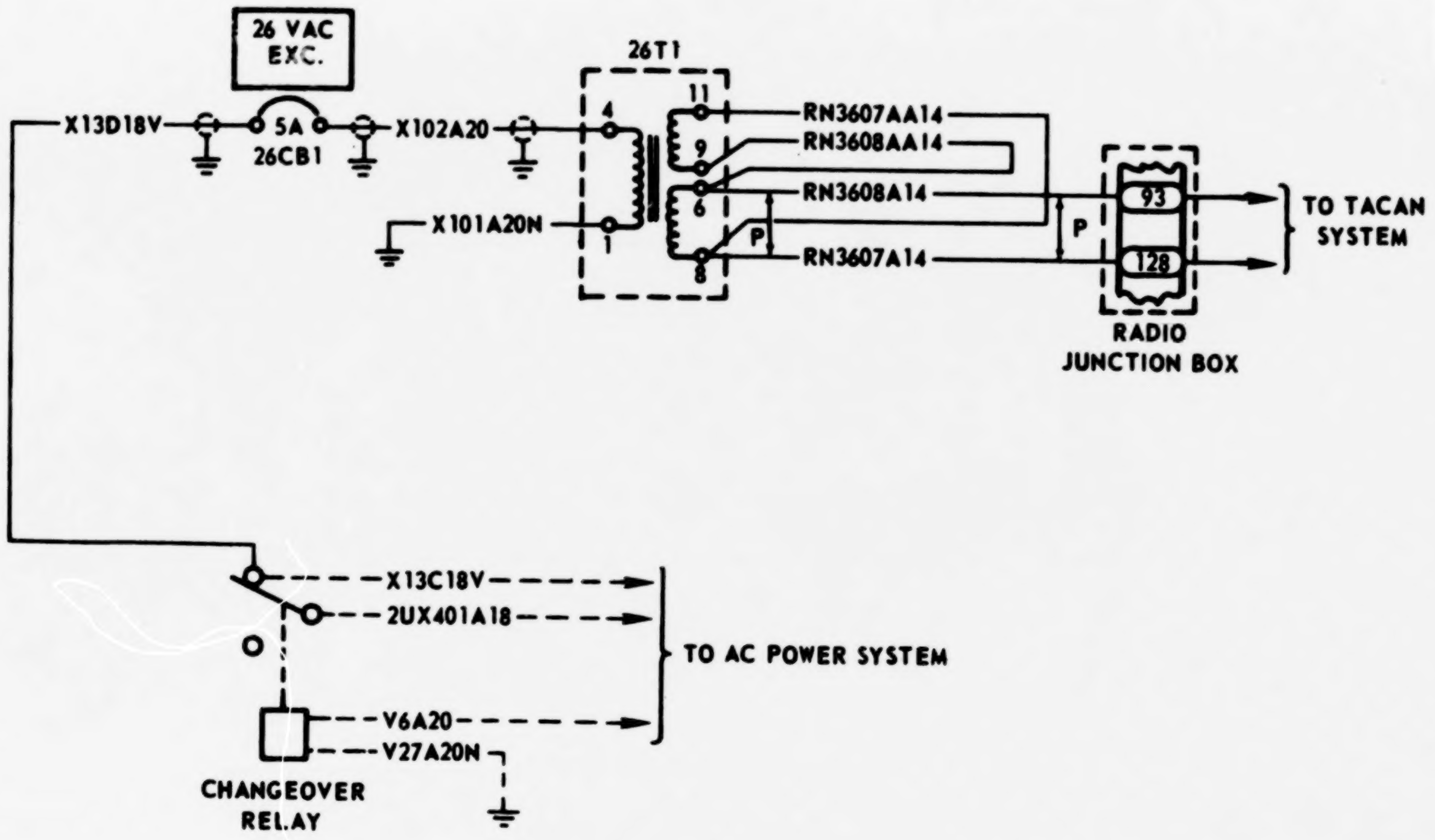
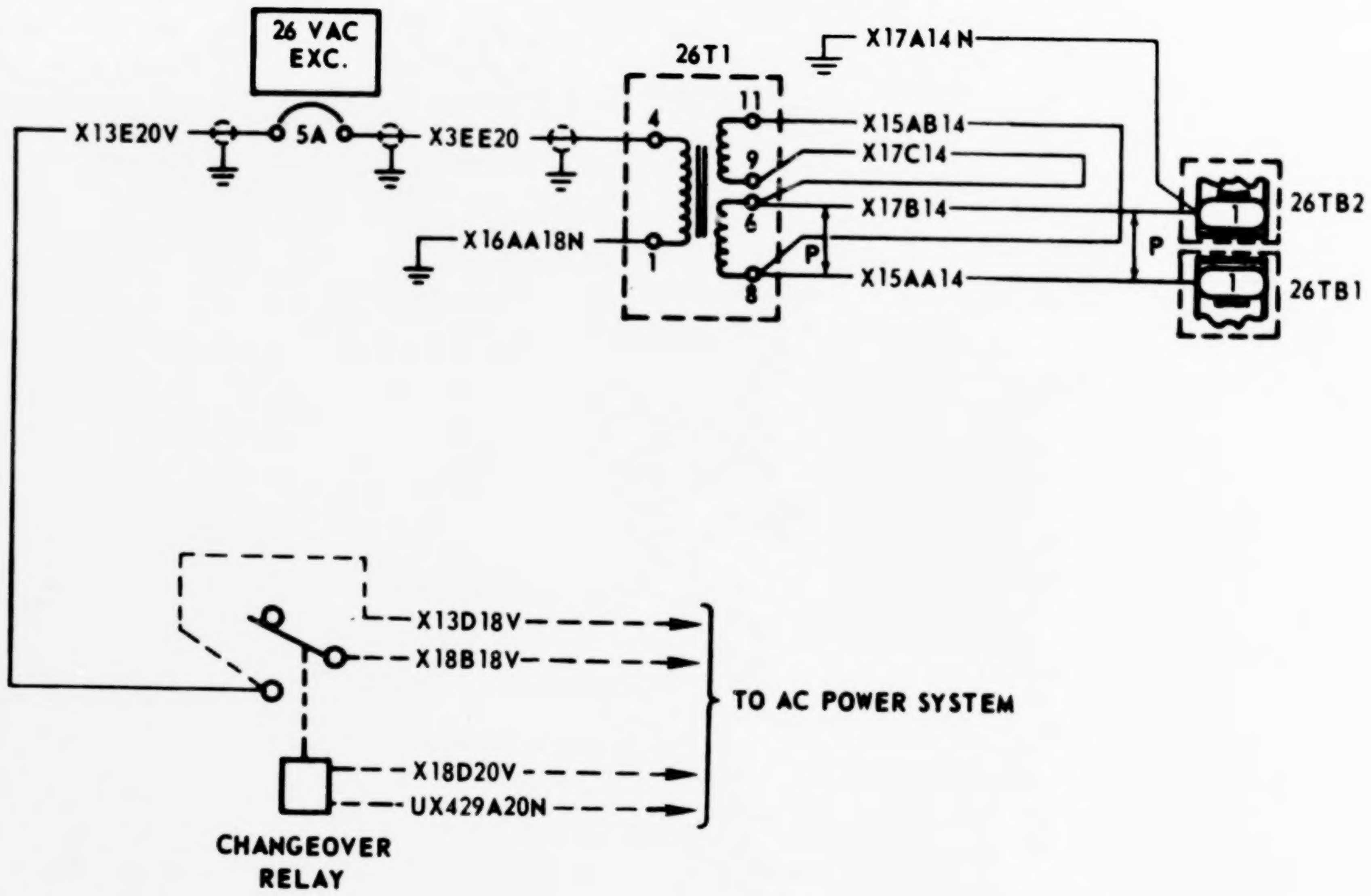

26 VAC
EXC.
X13D18V
5A
26CB1
X102A20
X101A20N
26T1
4
1
11
9
6
8
P
RN3607AA14
RN3608AA14
RN3608A14
RN3607A14
P
93
128
RADIO
JUNCTION BOX
TO TACAN
SYSTEM
X13C18V
2UX401A18
V6A20
V27A20N
TO AC POWER SYSTEM
CHANGEOVER
RELAY

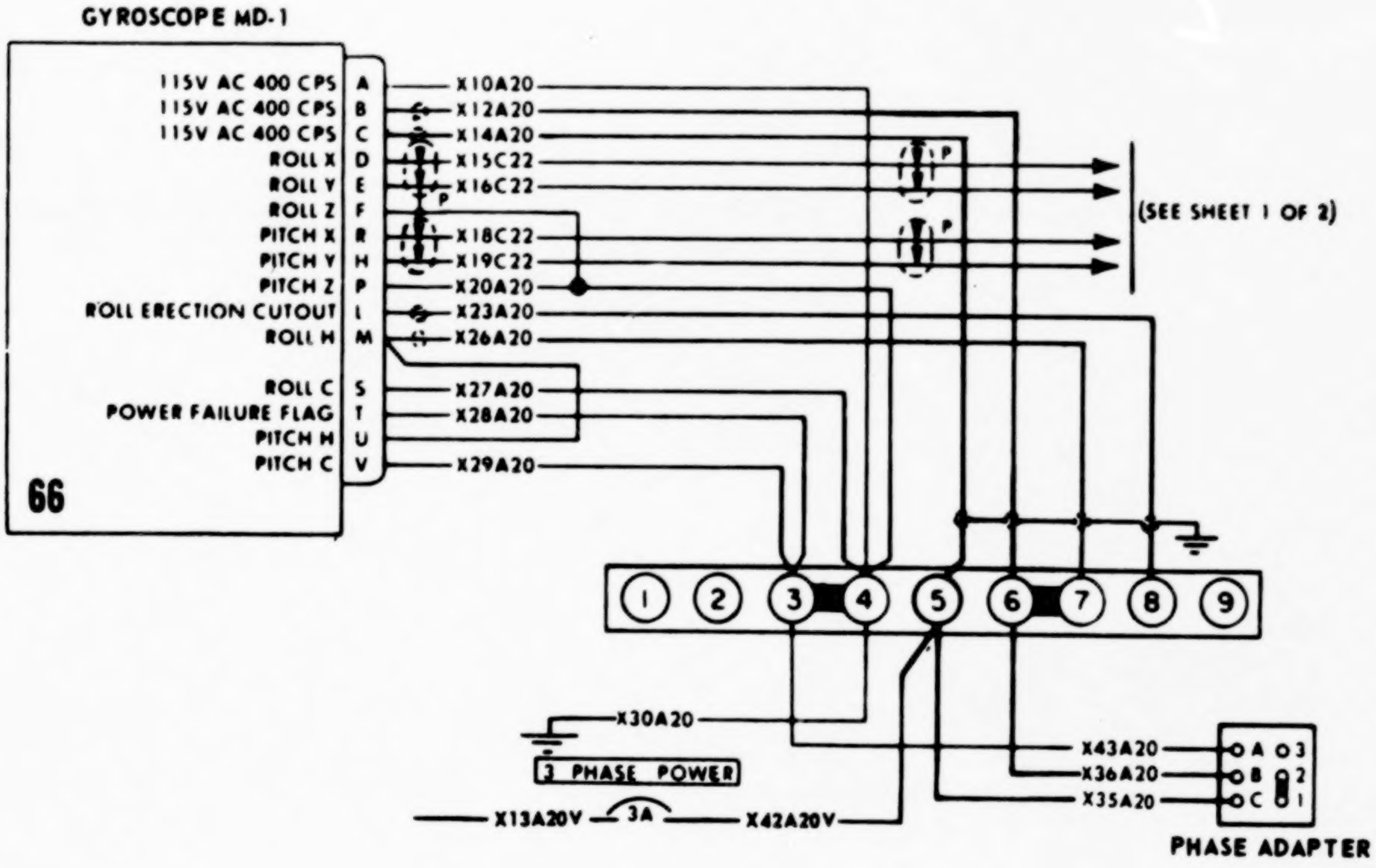
Figure 4–35. 26 VAC transformer excitation, configuration A, wiring diagram.


26 VAC
EXC.
26T1
X13E20V
5A
X3EE20
X16AA18N
4
1
11
9
6
8
X17A14N
X15AB14
X17C14
X17B14
X15AA14
P
P
1
1
26TB2
26TB1
X13D18V
X18B18V
X18D20V
UX429A20N
TO AC POWER SYSTEM
CHANGEOVER
RELAY

EL 1510-201-20-TM-C1-109

Figure 4-36. 26 VAC transformer excitation, configuration B, wiring diagram.

Irregular
Pagination.


GYROSCOPE MD-1
115V AC 400 CPS
115V AC 400 CPS
115V AC 400 CPS
ROLL X
ROLL Y
ROLL Z
PITCH X
PITCH Y
PITCH Z
ROLL ERECTION CUTOUT
ROLL H
ROLL C
POWER FAILURE FLAG
PITCH H
PITCH C
66
A
B
C
D
E
F
R
H
P
L
M
S
T
U
V
X10A20
X12A20
X14A20
X15C22
X16C22
X18C22
X19C22
X20A20
X23A20
X26A20
X27A20
X28A20
X29A20
P
P
P
P
(SEE SHEET 1 OF 2)
1
2
3
4
5
6
7
8
9
X30A20
3 PHASE POWER
X13A20V
3A
X42A20V
X43A20
X36A20
X35A20
A
B
C
3
2
1
PHASE ADAPTER

EFFECTIVE ON AIRCRAFT
SERIAL NO.
60-3453, 60-3458, 60-3461,
AND 60-5387.

EL 1510-201-20-TM-C1-113 ②

Figure 4-42②. Weather radar circuit AN/APN-158, configuration B, wiring diagram (sheet 2 of 2).

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PIN : 015884-000

Irregular
Pagination.